STORMWATER MANAGEMENT NARRATIVE
King Street Center Project
87 King St., Burlington, VT 05401

STORMWATER APPROACH

The proposed stormwater BMP's for this project were designed and sized to treat and detain runoff from as much of the overall impervious surfaces on the project property as practical. The City of Burlington Draft Stormwater Review Rubric and associated Treatment/Runoff Reduction/Detention Requirements Table were used to guide the sizing of the proposed BMP's. This project is located in the Combined Sewer Overflow drainage system and therefore the overall stormwater goal of the project is reduction/mitigation of water quantity and some treatment.

PROPOSED SITE

The majority of the existing site is impervious surface which consists of an 8,200 ± sf building as well as a small paved entry off of King Street, a shed and a basketball court. Proposed conditions will be fairly similar with some changes to the building layout and paved drop off area. The proposed drainage area map shows impervious surfaces as existing to be removed, existing to remain, redeveloped and proposed. The proposed shown is the new impervious, not net new. The following table shows a breakdown of these areas.

Impervious	Total Proposed Area (sf)	Area Required to be Treated (sf)	Actual Area Treated (sf)
Existing to Remain	0	0	0
Existing to be Removed	0	0	0
Redeveloped	9,103	4,552	8,441
New	1,941	1,941	54
Total	**11,044**	**6,493**	**8,495**

Stormwater runoff from the entire building will be collected and directed into two proposed 5,000 gallon storage tanks. The area required to be treated was calculated as half of the existing impervious, half of the redeveloped impervious and all of the net new impervious. Approximately 2,000 sf more than the required area to be treated will actually be collected and detained. This is the entire roof area on the property which will be collected via roof drains and gutters. There are also three small areas on the site where pervious pavers will be installed which will encourage some infiltration of stormwater. For the purposes of this application these areas have been considered impervious and are included in the table above. As in existing conditions, there are very few grassed areas and therefore very little opportunity to try to infiltrate stormwater on-site. However, there will be several small landscaped areas added to the site under proposed conditions which will allow for some infiltration. These areas have not been included in the HydroCAD model. There is an existing stormwater storage tank on site which will be replaced and a second tank added to the existing system as described below.

STORMWATER DETENTION DESIGN

The basis of design for the stormwater tanks was to provide grit removal as well as peak flow mitigation. The two tanks will be hydraulically connected by two pipes near the invert of the tanks. A vertical pipe with orifices will be installed in the tank and will serve as the overflow structure for the system. The lowest orifice has been located 1 ft above the invert of the tank in order to provide volume for grit removal. The enclosed maintenance plan for the tanks includes instructions for vacuuming the tanks in order to maintain this volume.

One Year Detention:

The existing site contains (1) 5,000 gallon storage tank which collects runoff, likely from the existing roof, and releases stormwater through a 2" outlet pipe. This pipe outlets into a manhole which also collects water from the building underdrains and then ties into the City's combined storm-sewer system in Pine St. It is difficult to determine how much of the existing site drains to this storage tank since the tank is not easily accessible, so for the purposes of this application it was assumed that the entire site drains to this tank and receives peak flow mitigation.

The peak flow for the 1 year storm was analyzed at a Point Of Interest (POI) where the stormwater system ties into the City storm-sewer system to the west of the project. The outlet control for the tanks was sized to try to match the existing peak flow reaching the POI. The existing site was also modeled with 50% of the existing impervious as meadow (EDA, 50% Imp Meadow) for comparison purposes. The proposed flow reaching the POI is slightly more than under existing conditions, but a 1" orifice is used which is the minimum recommended diameter to avoid clogging. The following table shows flows for the one year storm at the POI:

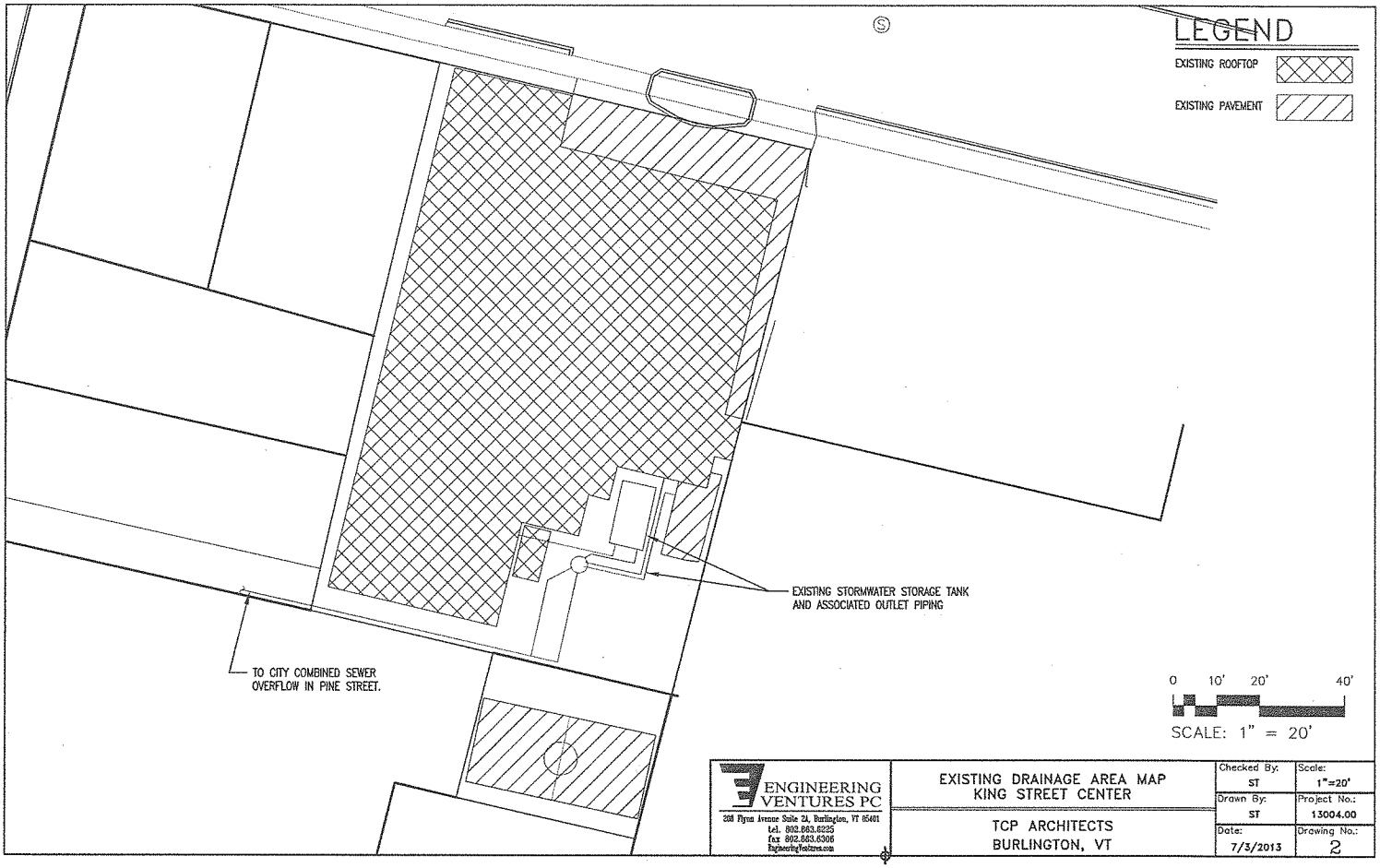
EDA, 50% Meadow	EDA	Proposed Conditions
0.13	0.20 cfs	0. 24 cfs

10 and 100 Year Detention:

The 10 and 100 year storms were also checked to ensure that the runoff from the drainage area is not exceeding the existing peak flow. The 10 year storm does not match existing flows due to the fact that the area not flowing into the tanks (PDA 1B) is more than the existing flow reaching the POI. The flow leaving the storage tank has been minimized as much as possible. The pervious pavers have also not been modeled so there is likely less runoff under proposed conditions than shown. The existing flows represent the flow modeled for the drainage area with actual conditions modeled (no meadow comparisons). The following table is a summary of the existing and proposed peak flows reaching the POI.

	10 Year Peak Flow (cfs)	100 Year Peak Flow (cfs)
Existing	0.28	2.20
Proposed	0.45	1.46

It should be noted that the outlet modeled for the existing tank is based on the best information available. The model shows the existing tank overflows by quite a bit under large storm conditions. The tank could back up into roof drains under existing conditions, or there may be a secondary overflow that is not shown on existing plans. In any case, the flows modeled should be the worst case scenario.

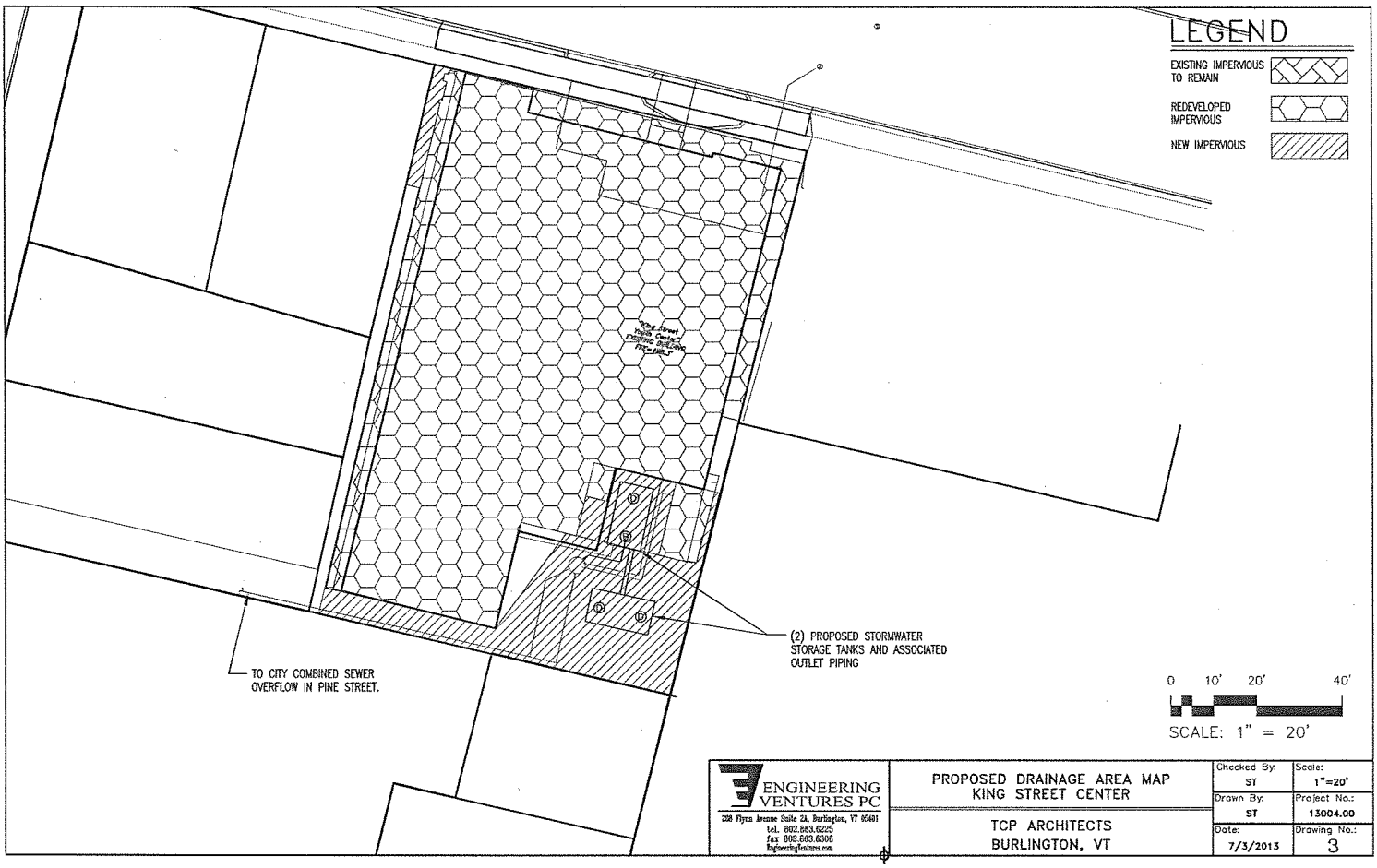


ENGINEERING VENTURES PC
208 Flynn Avenue Suite 2A, Burlington, VT 05401
tel. 802.863.6225
fax 802.863.6306
Engineering@evtnet.com

EXISTING DRAINAGE AREA MAP
KING STREET CENTER

TCP ARCHITECTS
BURLINGTON, VT

Checked By:	Scale:
ST	1"=20'
Drawn By:	Project No.:
ST	13004.00
Date:	Drawing No.:
7/3/2013	2



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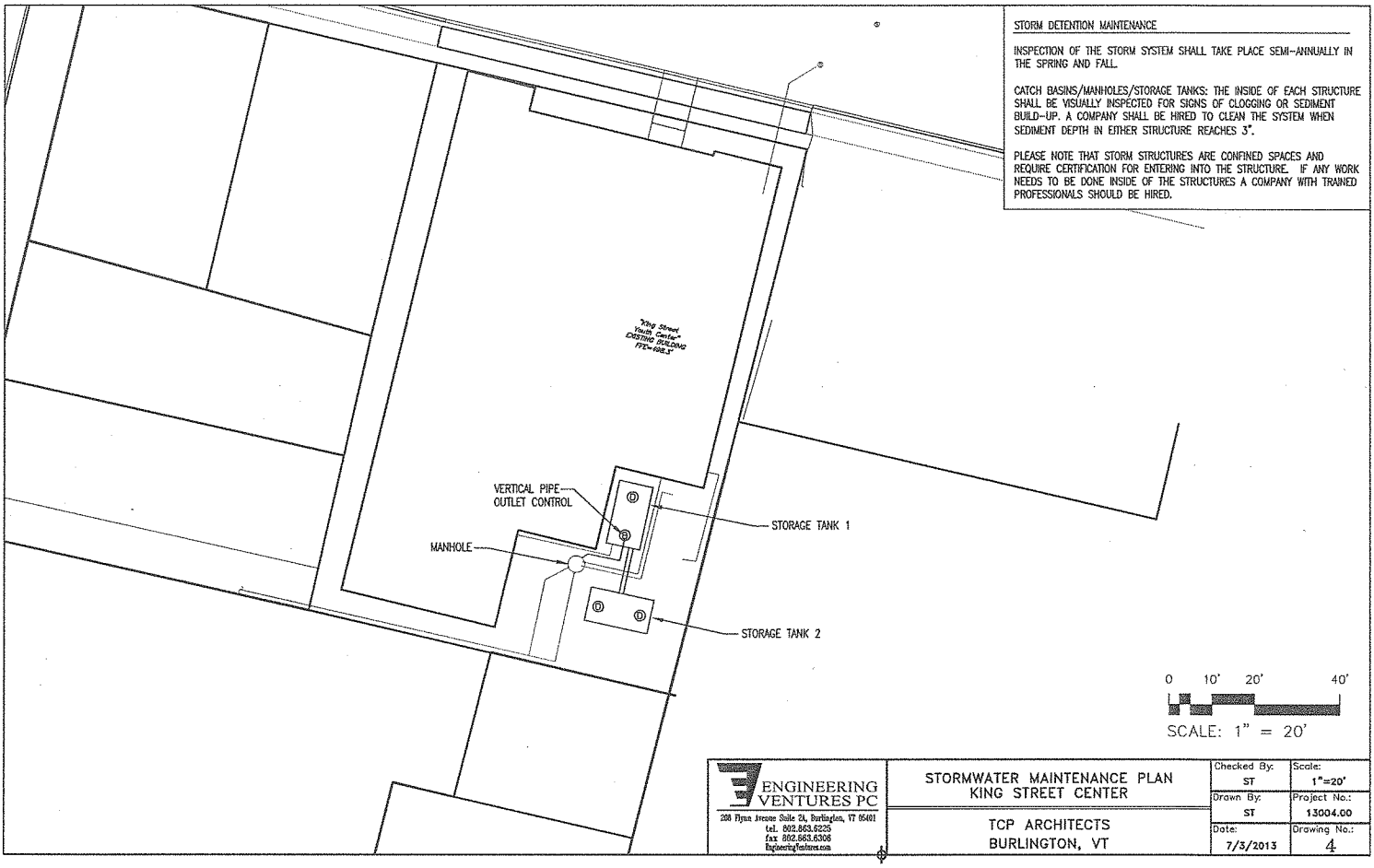
EngineeringVentures.com

PROPOSED DRAINAGE AREA MAP
KING STREET CENTER

TCP ARCHITECTS
BURLINGTON, VT

Checked By:	Scale:
ST	1"=20'
Drawn By:	Project No.:
ST	13004.00
Date:	Drawing No.:
7/3/2013	3



STORM DETENTION MAINTENANCE

INSPECTION OF THE STORM SYSTEM SHALL TAKE PLACE SEMI-ANNUALLY IN THE SPRING AND FALL.

CATCH BASINS/MANHOLES/STORAGE TANKS: THE INSIDE OF EACH STRUCTURE SHALL BE VISUALLY INSPECTED FOR SIGNS OF CLOGGING OR SEDIMENT BUILD-UP. A COMPANY SHALL BE HIRED TO CLEAN THE SYSTEM WHEN SEDIMENT DEPTH IN EITHER STRUCTURE REACHES 3".

PLEASE NOTE THAT STORM STRUCTURES ARE CONFINED SPACES AND REQUIRE CERTIFICATION FOR ENTERING INTO THE STRUCTURE. IF ANY WORK NEEDS TO BE DONE INSIDE OF THE STRUCTURES A COMPANY WITH TRAINED PROFESSIONALS SHOULD BE HIRED.

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STORMWATER MAINTENANCE PLAN
KING STREET CENTER

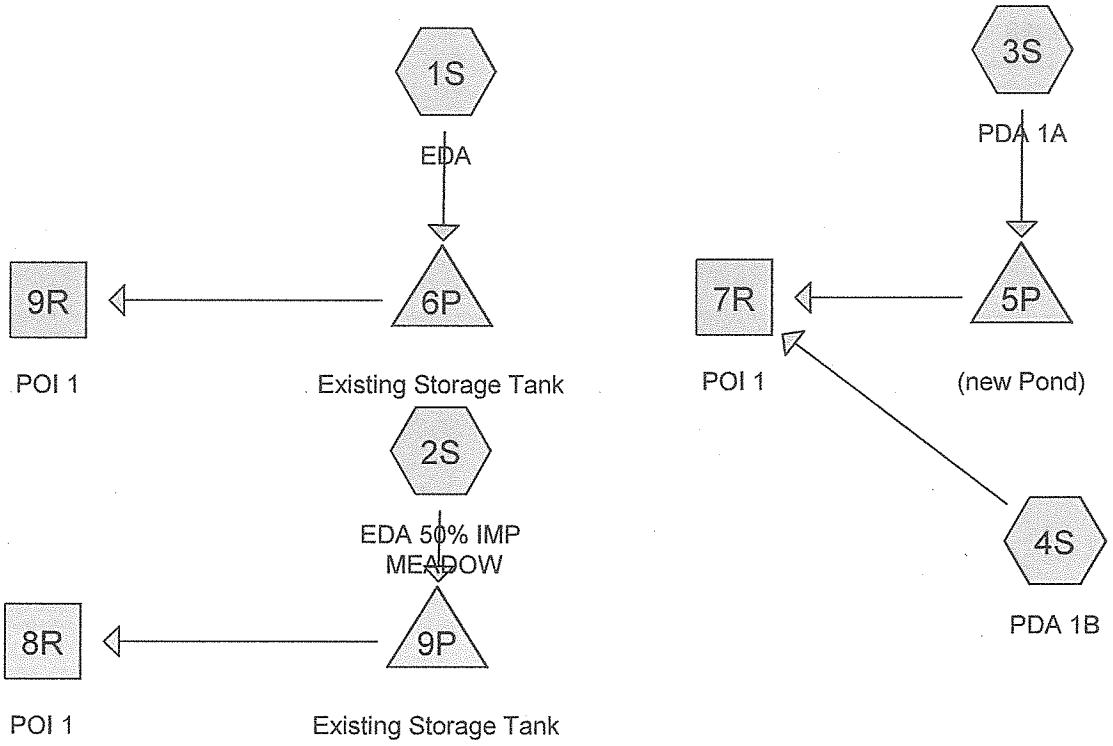
TCP ARCHITECTS
BURLINGTON, VT

Checked By:	Scale:
ST	1"=20'
Drawn By:	Project No.:
ST	13004.00
Date:	Drawing No.:
7/3/2013	4

Stormwater System Inspection Form
King Street Center
87 King St. Burlington, VT

Please record activities performed and any comments noted during inspection in each column. Please refer to associated Stormwater Maintenance Plan for further detail. All inspections to take place semi- annually in the Spring and Fall.

Date of Inspection	Manhole Inspections	Storage Tank 1 Inspections	Storage Tank 2 Inspections



Subcat Reach Pond Link

Routing Diagram for Storm

Prepared by {enter your company name here}, Printed 7/22/2013

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.200	74	>75% Grass cover, Good, HSG C (1S, 2S, 4S)
0.115	71	Meadow, non-grazed, HSG C (2S)
0.345	98	Paved parking and Roof, HSG C (1S, 2S)
0.060	98	Paved parking, HSG C (4S)
0.190	98	Unconnected roofs, HSG C (3S)

Summary for Subcatchment 1S: EDA

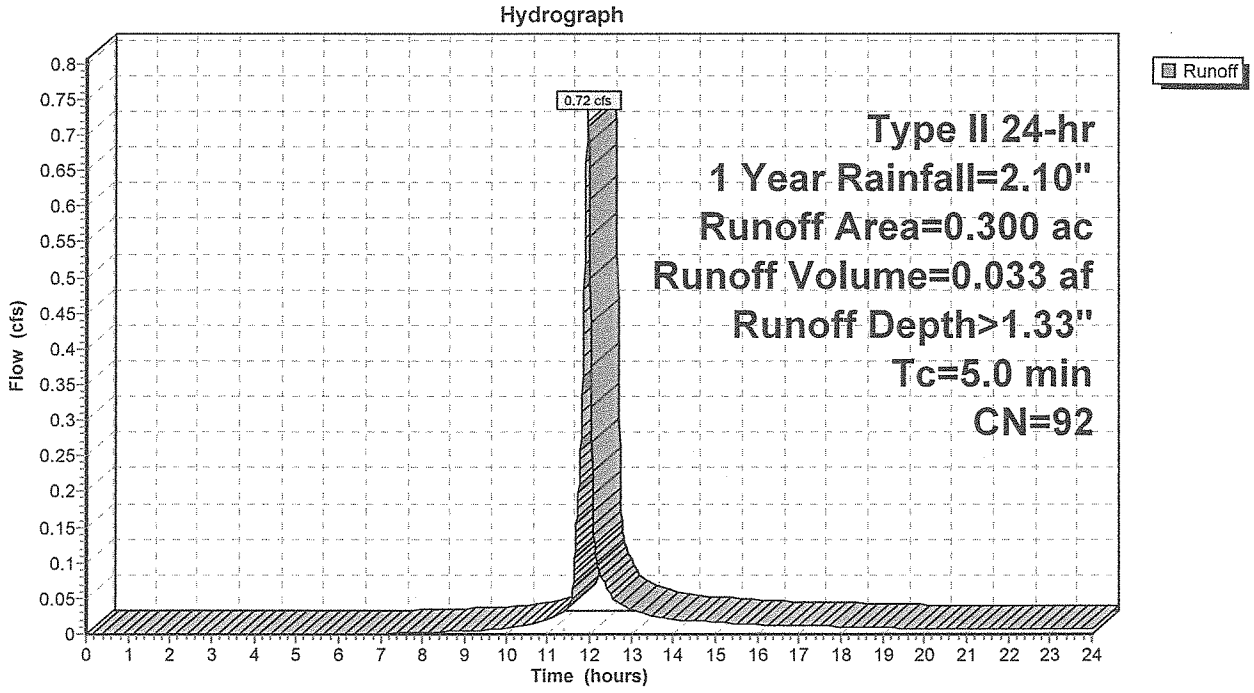
Runoff = 0.72 cfs @ 11.96 hrs, Volume= 0.033 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

	Area (ac)	CN	Description
	0.070	74	>75% Grass cover, Good, HSG C
*	0.230	98	Paved parking and Roof, HSG C
	0.300	92	Weighted Average
	0.070		23.33% Pervious Area
	0.230		76.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: EDA



Summary for Subcatchment 2S: EDA 50% IMP MEADOW

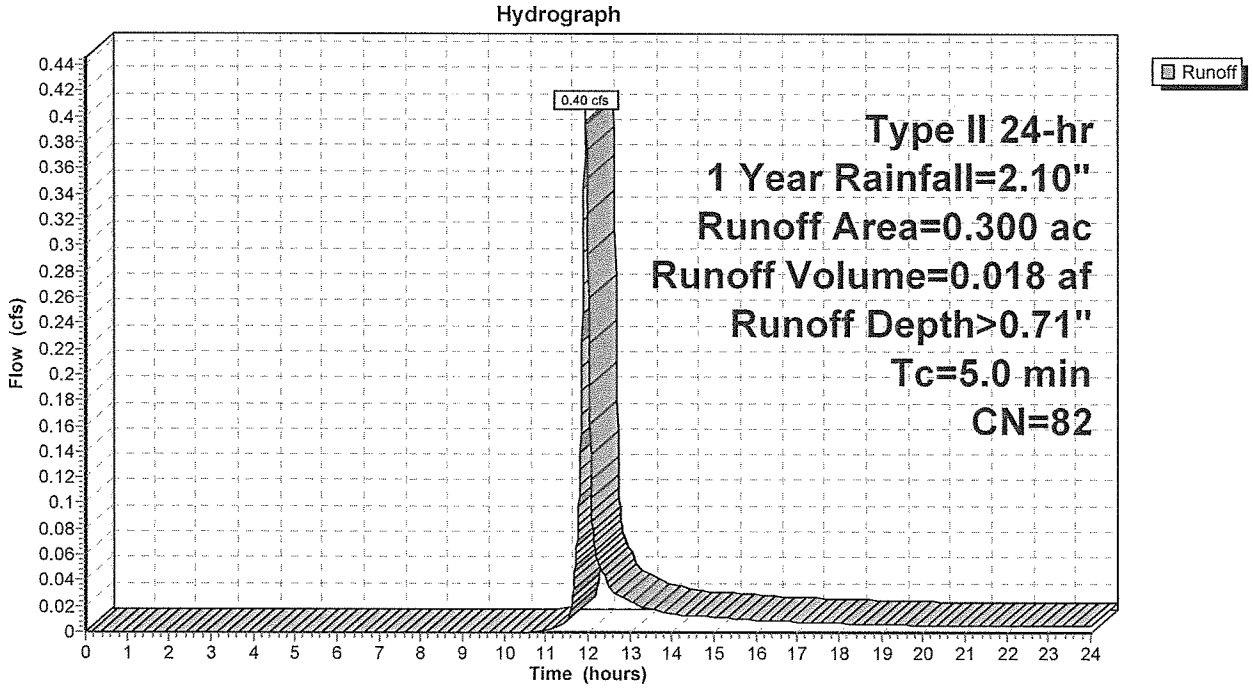
Runoff = 0.40 cfs @ 11.97 hrs, Volume= 0.018 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

	Area (ac)	CN	Description
	0.070	74	>75% Grass cover, Good, HSG C
*	0.115	98	Paved parking and Roof, HSG C
	0.115	71	Meadow, non-grazed, HSG C
	0.300	82	Weighted Average
	0.185		61.67% Pervious Area
	0.115		38.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: EDA 50% IMP MEADOW



Summary for Subcatchment 3S: PDA 1A

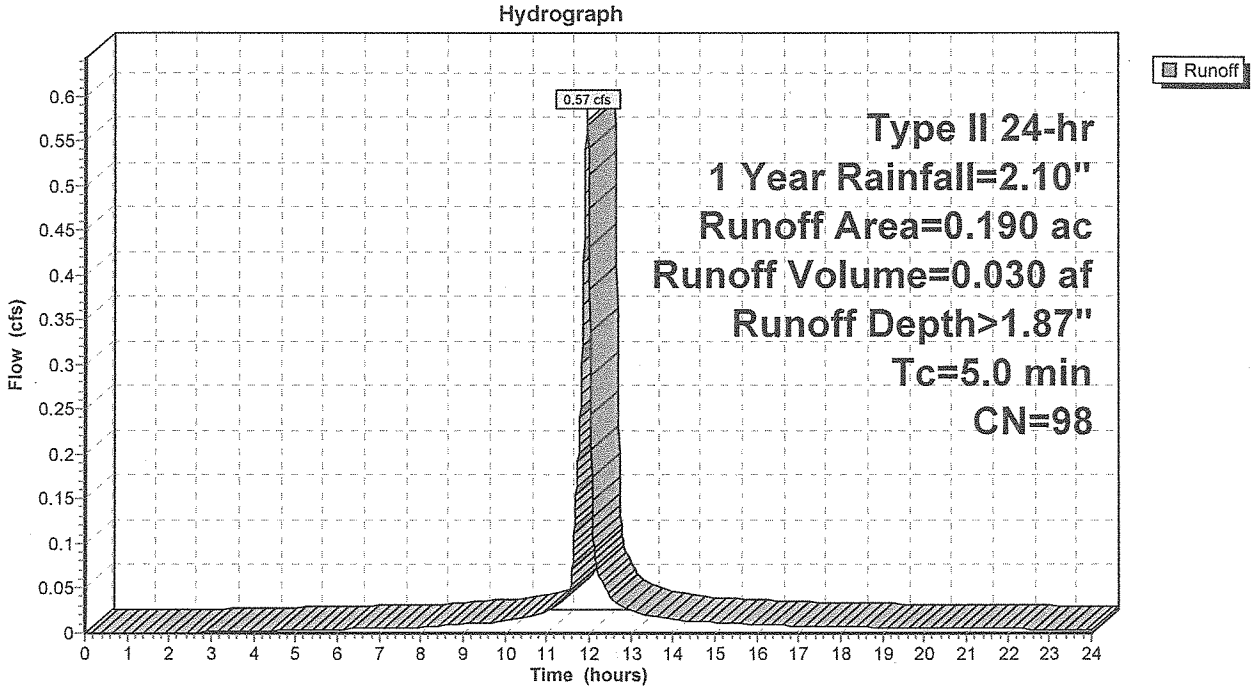
Runoff = 0.57 cfs @ 11.96 hrs, Volume= 0.030 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
0.190	98	Unconnected roofs, HSG C
0.190		100.00% Impervious Area
0.190		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: PDA 1A



Summary for Subcatchment 4S: PDA 1B

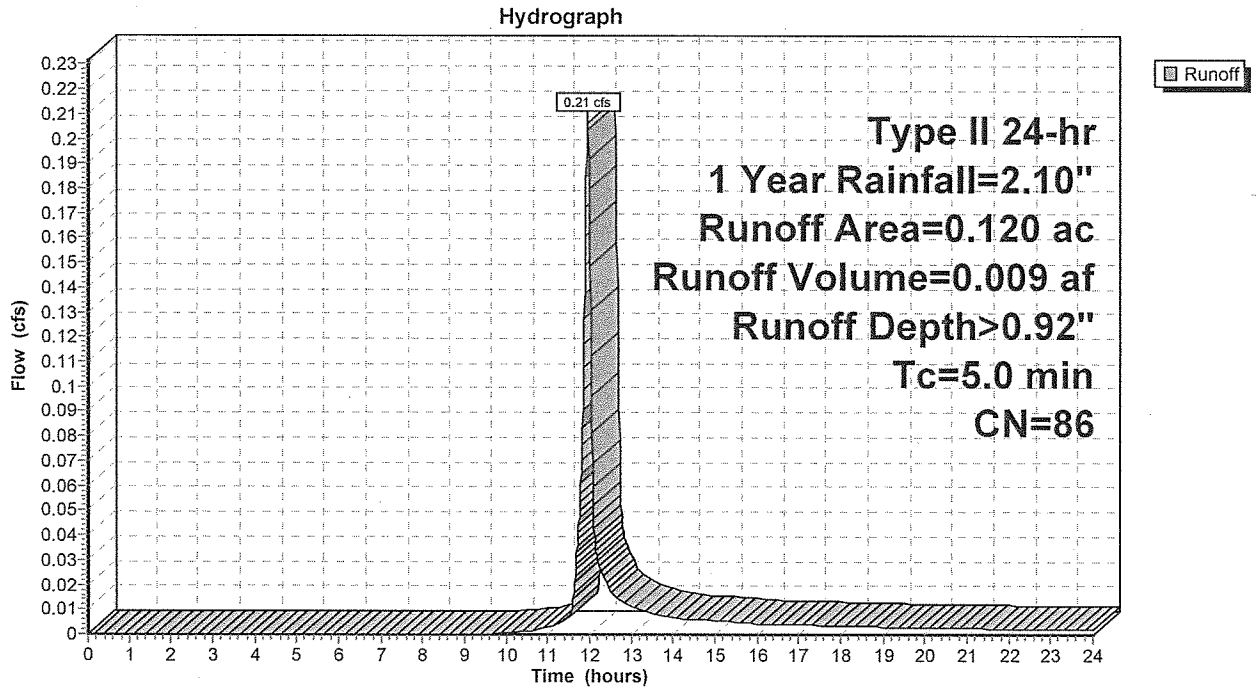
Runoff = 0.21 cfs @ 11.96 hrs, Volume= 0.009 af, Depth> 0.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
0.060	74	>75% Grass cover, Good, HSG C
0.060	98	Paved parking, HSG C
0.120	86	Weighted Average
0.060		50.00% Pervious Area
0.060		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: PDA 1B

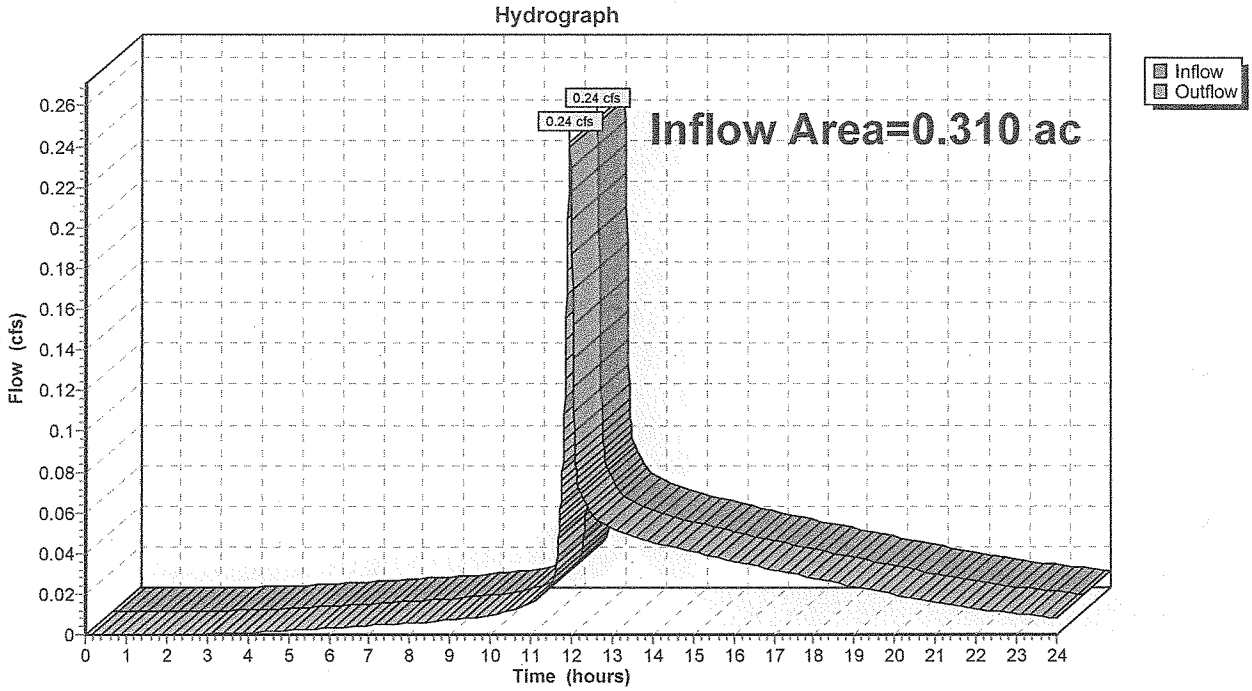


Summary for Reach 7R: POI 1

Inflow Area = 0.310 ac, 80.65% Impervious, Inflow Depth > 1.48" for 1 Year event
Inflow = 0.24 cfs @ 11.97 hrs, Volume= 0.038 af
Outflow = 0.24 cfs @ 11.97 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 7R: POI 1

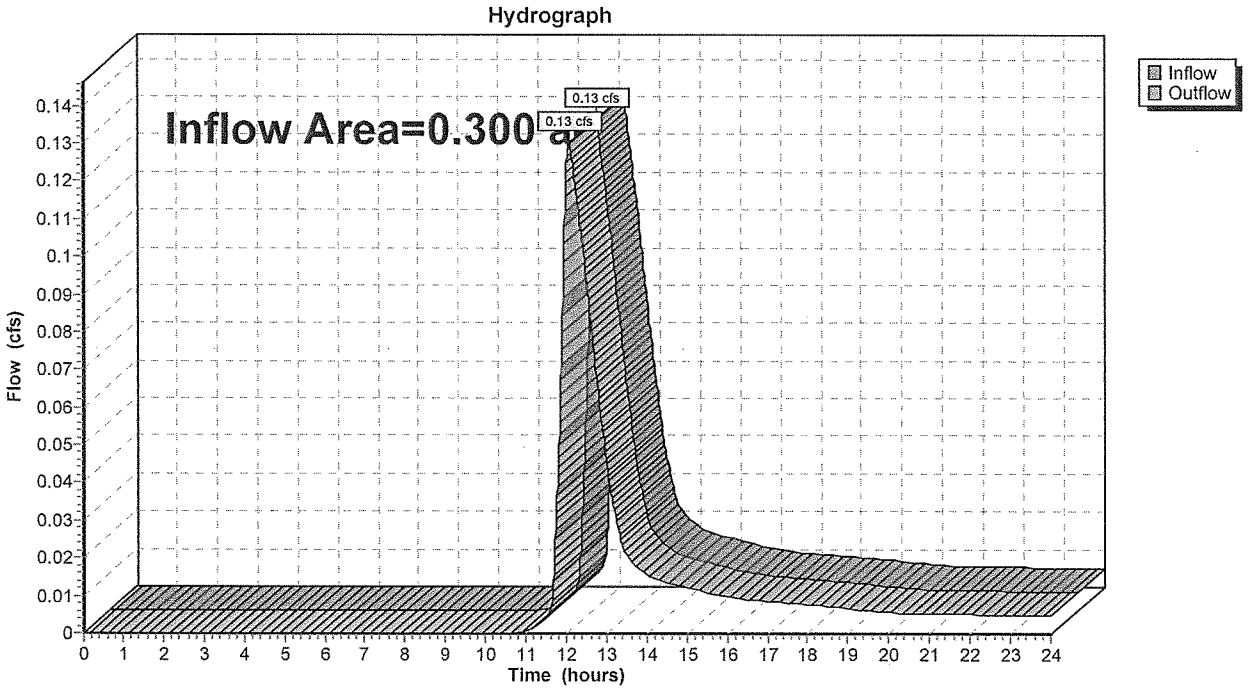


Summary for Reach 8R: POI 1

Inflow Area = 0.300 ac, 38.33% Impervious, Inflow Depth > 0.71" for 1 Year event
Inflow = 0.13 cfs @ 12.07 hrs, Volume= 0.018 af
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 8R: POI 1

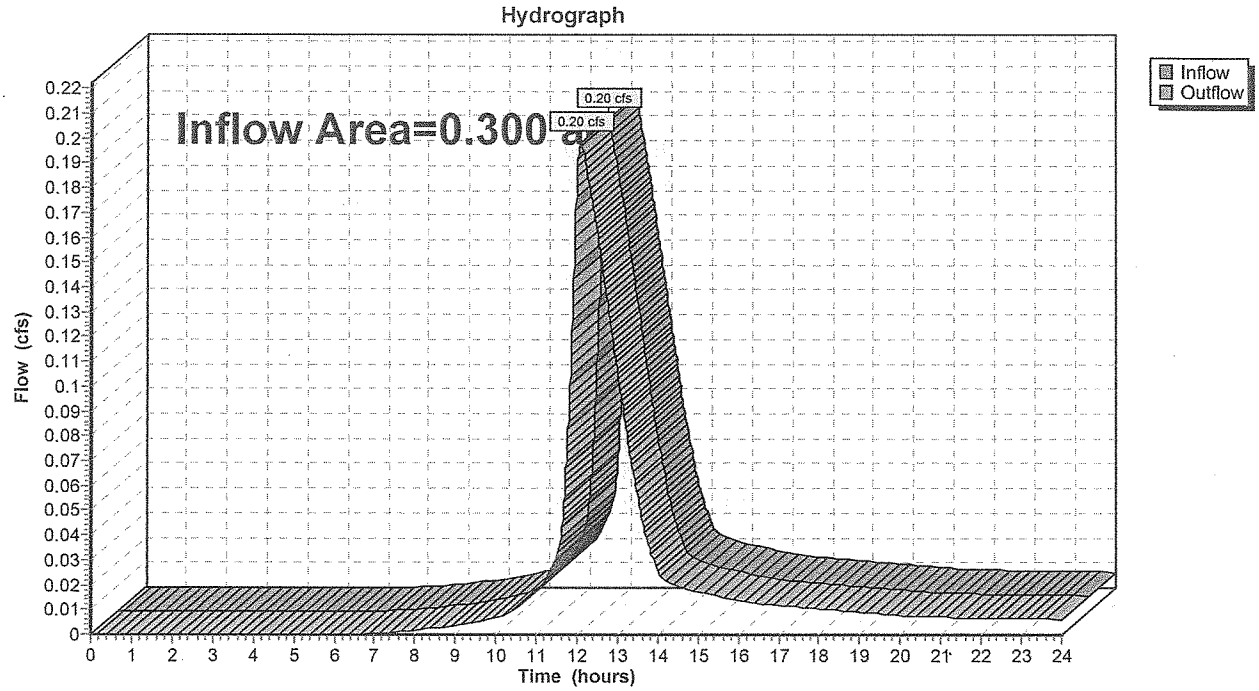


Summary for Reach 9R: POI 1

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 1.32" for 1 Year event
Inflow = 0.20 cfs @ 12.08 hrs, Volume= 0.033 af
Outflow = 0.20 cfs @ 12.08 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 9R: POI 1



Summary for Pond 5P: (new Pond)

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 1.87" for 1 Year event
Inflow = 0.57 cfs @ 11.96 hrs, Volume= 0.030 af
Outflow = 0.04 cfs @ 12.50 hrs, Volume= 0.029 af, Atten= 93%, Lag= 32.4 min
Primary = 0.04 cfs @ 12.50 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Starting Elev= 1.00' Surf.Area= 240 sf Storage= 240 cf
Peak Elev= 3.58' @ 12.50 hrs Surf.Area= 240 sf Storage= 859 cf (619 cf above start)

Plug-Flow detention time= 309.2 min calculated for 0.024 af (80% of inflow)
Center-of-Mass det. time= 153.2 min (914.1 - 761.0)

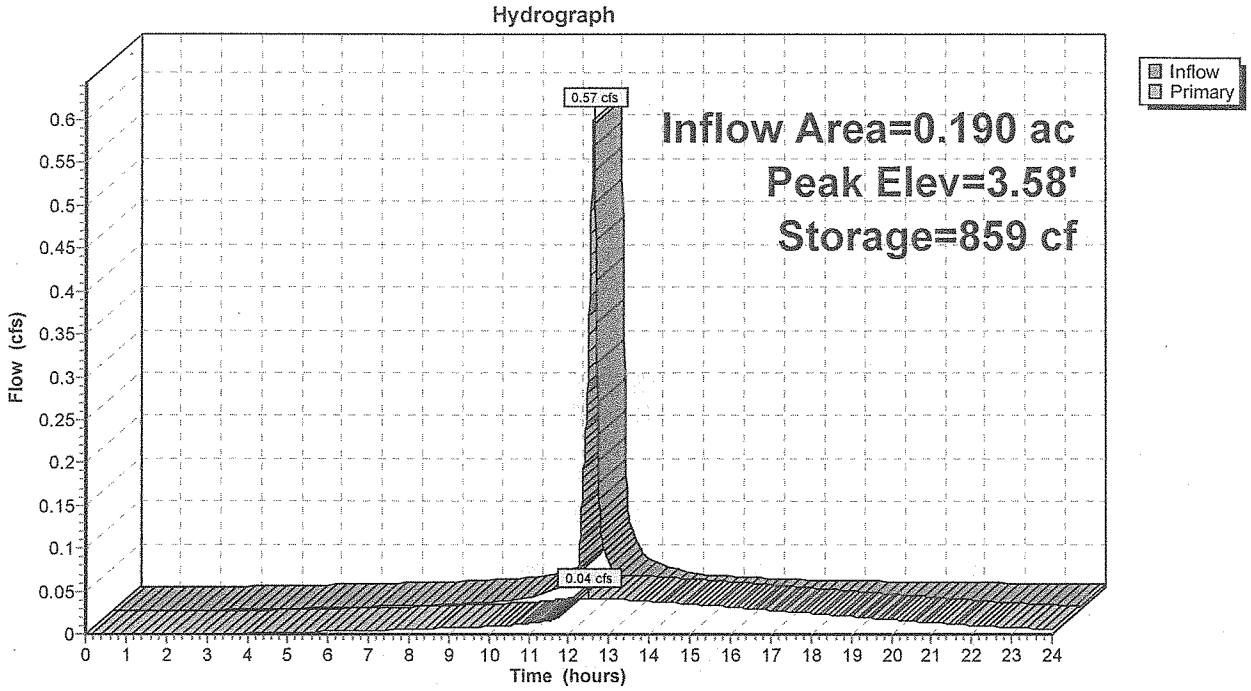
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,920 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 2

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	1.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	5.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	6.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 12.50 hrs HW=3.58' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 7.67 fps)
- **2=Orifice/Grate** (Controls 0.00 cfs)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 5P: (new Pond)



Summary for Pond 6P: Existing Storage Tank

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 1.33" for 1 Year event
Inflow = 0.72 cfs @ 11.96 hrs, Volume= 0.033 af
Outflow = 0.20 cfs @ 12.08 hrs, Volume= 0.033 af, Atten= 72%, Lag= 7.2 min
Primary = 0.20 cfs @ 12.08 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 3.65' @ 12.08 hrs Surf.Area= 120 sf Storage= 438 cf

Plug-Flow detention time= 21.9 min calculated for 0.033 af (100% of inflow)
Center-of-Mass det. time= 19.2 min (828.4 - 809.2)

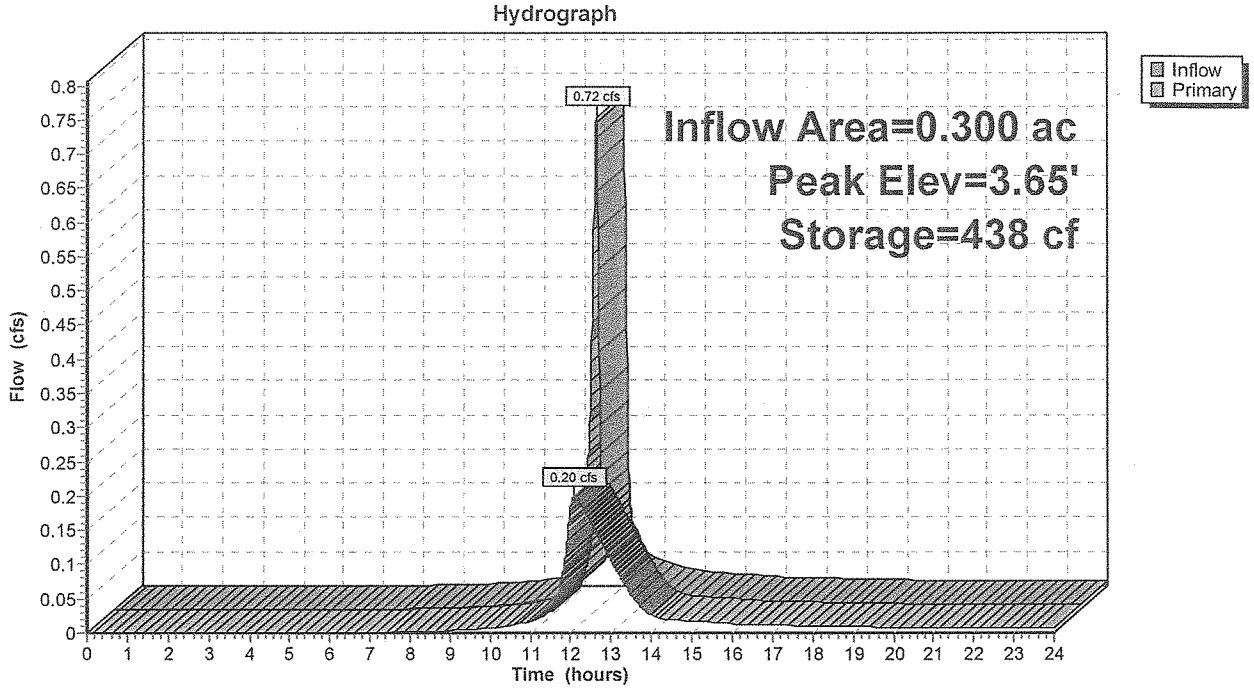
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	960 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.20 cfs @ 12.08 hrs HW=3.65' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 9.10 fps)

Pond 6P: Existing Storage Tank



Summary for Pond 9P: Existing Storage Tank

Inflow Area = 0.300 ac, 38.33% Impervious, Inflow Depth > 0.71" for 1 Year event
Inflow = 0.40 cfs @ 11.97 hrs, Volume= 0.018 af
Outflow = 0.13 cfs @ 12.07 hrs, Volume= 0.018 af, Atten= 67%, Lag= 6.4 min
Primary = 0.13 cfs @ 12.07 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 1.63' @ 12.07 hrs Surf.Area= 120 sf Storage= 195 cf

Plug-Flow detention time= 17.1 min calculated for 0.018 af (99% of inflow)
Center-of-Mass det. time= 13.6 min (867.5 - 853.8)

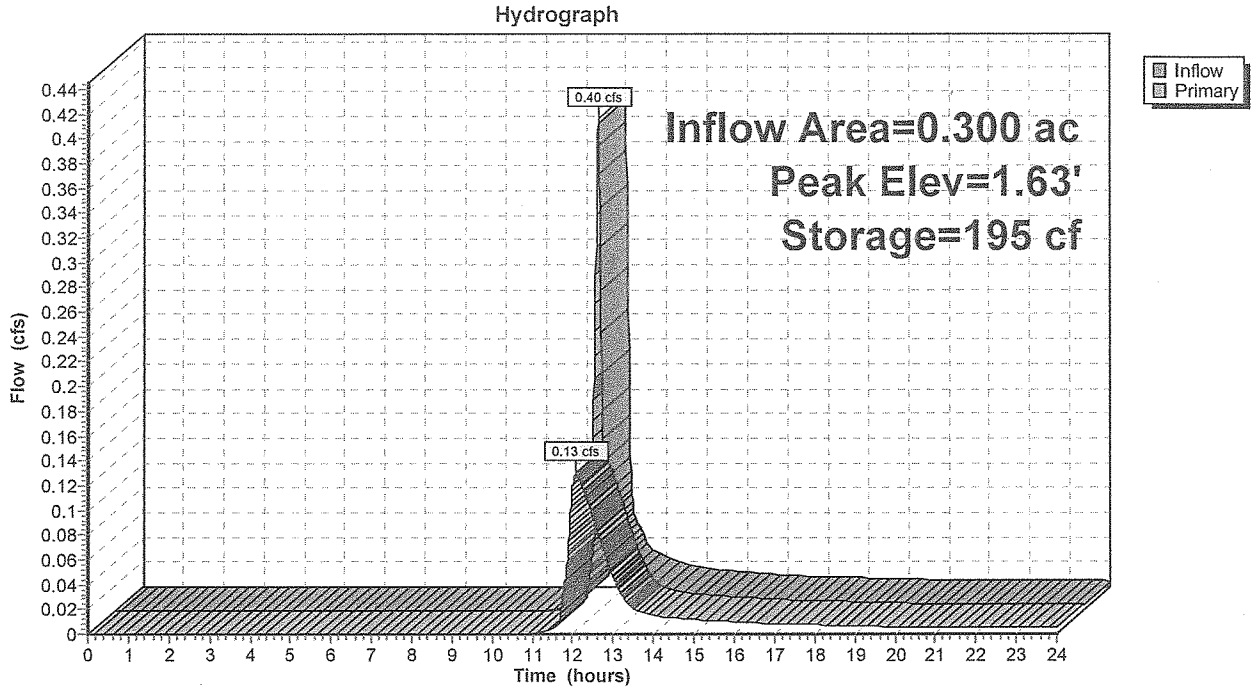
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	960 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

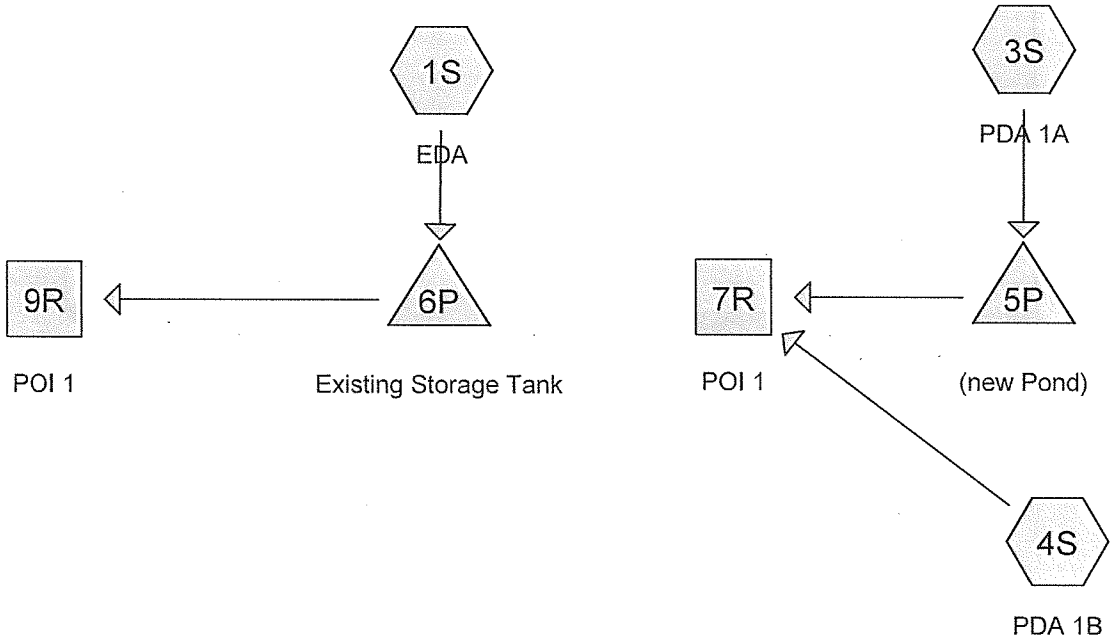
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.13 cfs @ 12.07 hrs HW=1.62' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 5.98 fps)

Pond 9P: Existing Storage Tank





Subcat Reach Pond Link

Routing Diagram for Storm

Prepared by {enter your company name here}, Printed 7/22/2013

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.130	74	>75% Grass cover, Good, HSG C (1S, 4S)
0.230	98	Paved parking and Roof, HSG C (1S)
0.060	98	Paved parking, HSG C (4S)
0.190	98	Unconnected roofs, HSG C (3S)

Summary for Subcatchment 1S: EDA

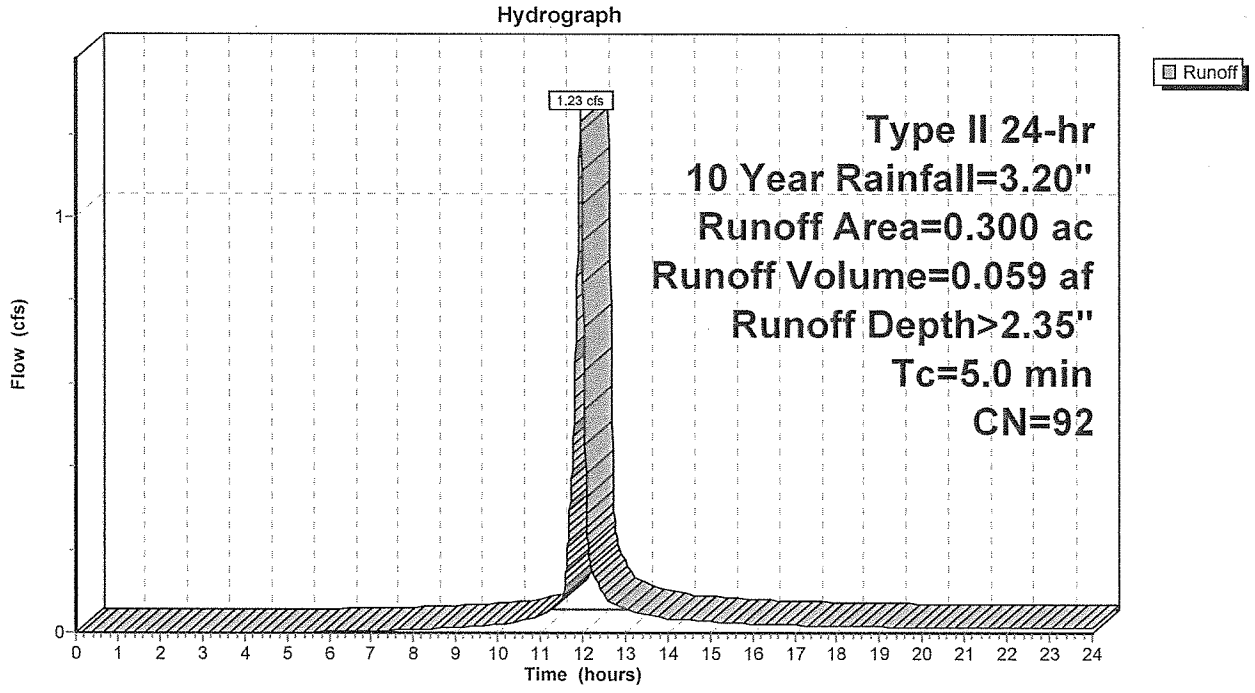
Runoff = 1.23 cfs @ 11.96 hrs, Volume= 0.059 af, Depth> 2.35"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.20"

	Area (ac)	CN	Description
	0.070	74	>75% Grass cover, Good, HSG C
*	0.230	98	Paved parking and Roof, HSG C
	0.300	92	Weighted Average
	0.070		23.33% Pervious Area
	0.230		76.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: EDA



Summary for Subcatchment 3S: PDA 1A

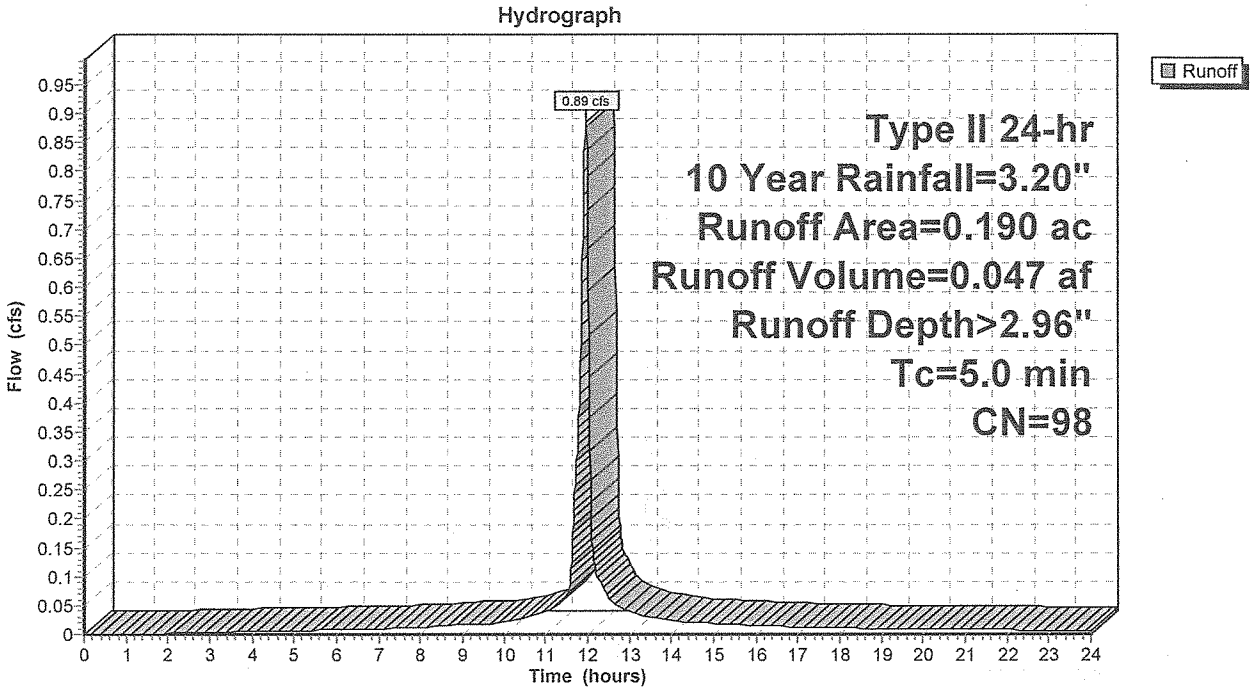
Runoff = 0.89 cfs @ 11.96 hrs, Volume= 0.047 af, Depth> 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.20"

Area (ac)	CN	Description
0.190	98	Unconnected roofs, HSG C
0.190		100.00% Impervious Area
0.190		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: PDA 1A



Summary for Subcatchment 4S: PDA 1B

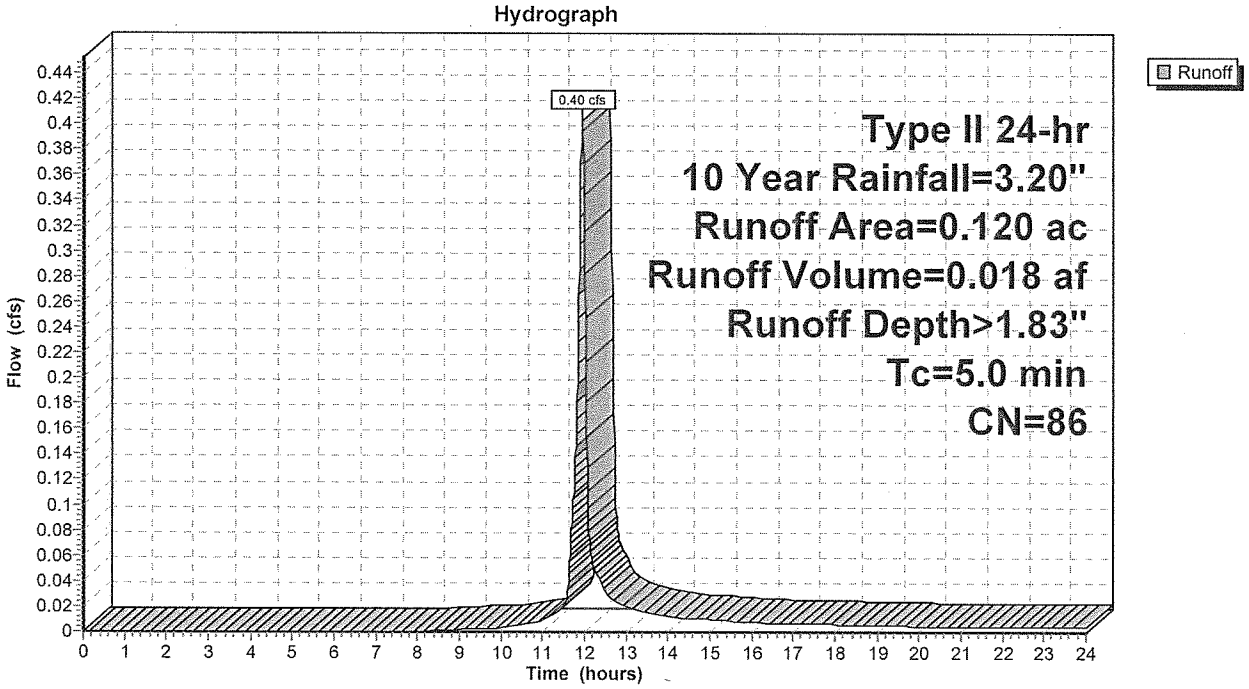
Runoff = 0.40 cfs @ 11.96 hrs, Volume= 0.018 af, Depth> 1.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 Year Rainfall=3.20"

Area (ac)	CN	Description
0.060	74	>75% Grass cover, Good, HSG C
0.060	98	Paved parking, HSG C
0.120	86	Weighted Average
0.060		50.00% Pervious Area
0.060		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: PDA 1B

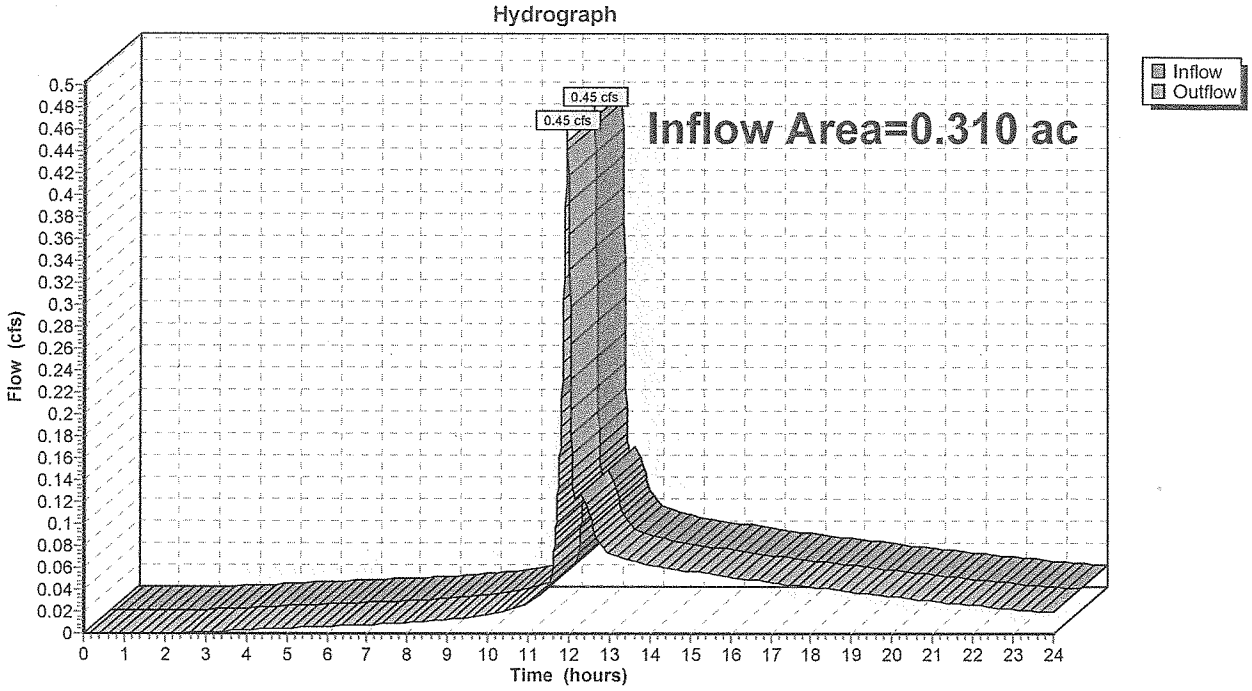


Summary for Reach 7R: POI 1

Inflow Area = 0.310 ac, 80.65% Impervious, Inflow Depth > 2.44" for 10 Year event
Inflow = 0.45 cfs @ 11.96 hrs, Volume= 0.063 af
Outflow = 0.45 cfs @ 11.96 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 7R: POI 1

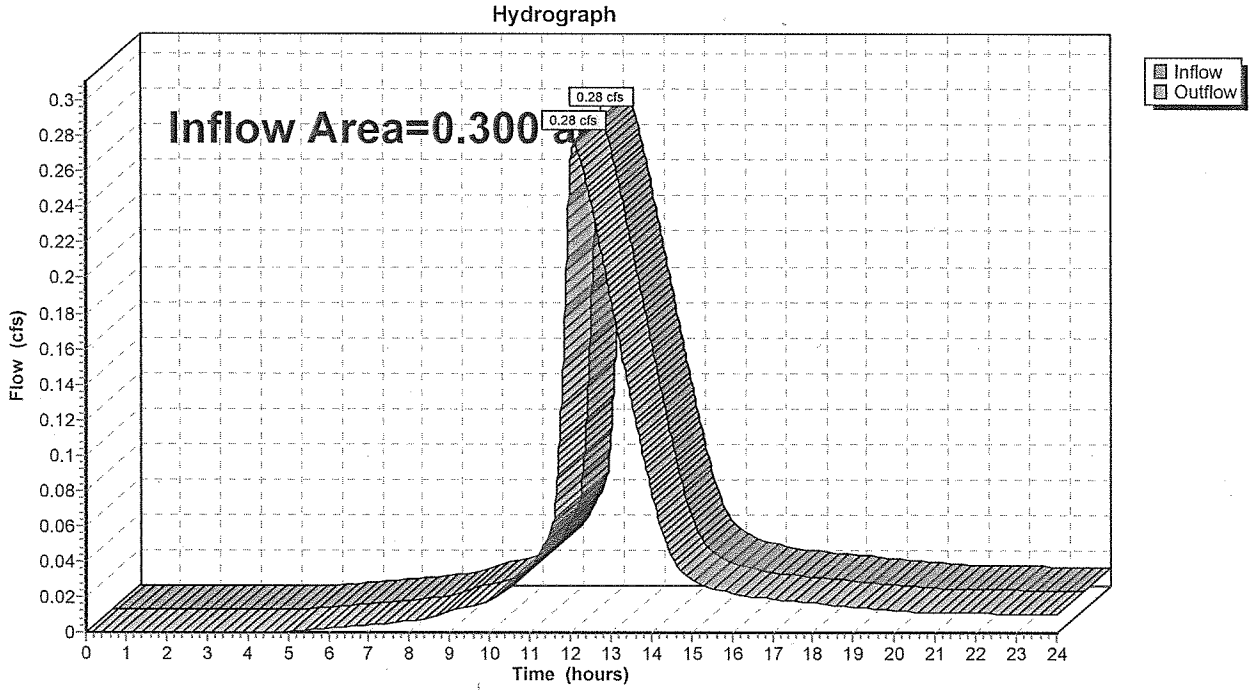


Summary for Reach 9R: POI 1

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 2.34" for 10 Year event
Inflow = 0.28 cfs @ 12.09 hrs, Volume= 0.058 af
Outflow = 0.28 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 9R: POI 1



Summary for Pond 5P: (new Pond)

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 2.96" for 10 Year event
Inflow = 0.89 cfs @ 11.96 hrs, Volume= 0.047 af
Outflow = 0.08 cfs @ 12.35 hrs, Volume= 0.045 af, Atten= 90%, Lag= 23.4 min
Primary = 0.08 cfs @ 12.35 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Starting Elev= 1.00' Surf.Area= 240 sf Storage= 240 cf
Peak Elev= 5.12' @ 12.35 hrs Surf.Area= 240 sf Storage= 1,228 cf (988 cf above start)

Plug-Flow detention time= 308.2 min calculated for 0.039 af (84% of inflow)
Center-of-Mass det. time= 174.1 min (925.0 - 751.0)

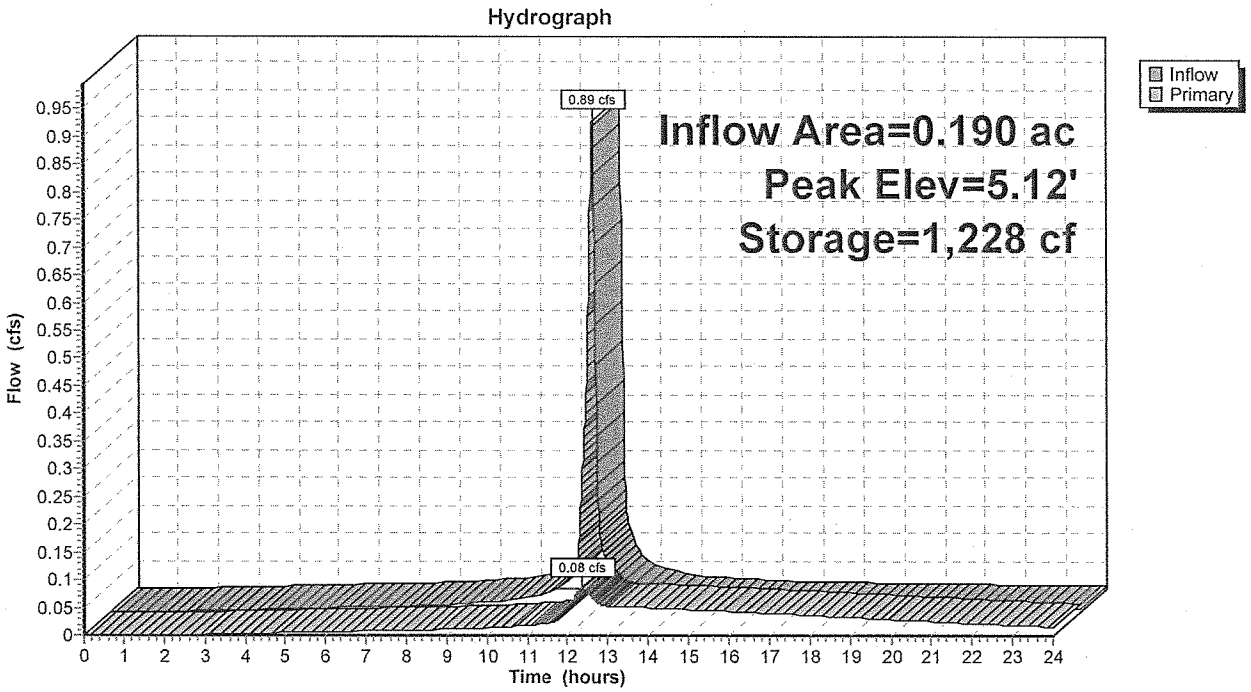
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,920 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 2

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	1.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	5.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	6.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 12.35 hrs HW=5.12' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 9.72 fps)
- **2=Orifice/Grate** (Orifice Controls 0.03 cfs @ 1.16 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)

Pond 5P: (new Pond)



Summary for Pond 6P: Existing Storage Tank

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 2.35" for 10 Year event
Inflow = 1.23 cfs @ 11.96 hrs, Volume= 0.059 af
Outflow = 0.28 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 78%, Lag= 8.1 min
Primary = 0.28 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 7.05' @ 12.09 hrs Surf.Area= 120 sf Storage= 846 cf

Plug-Flow detention time= 28.1 min calculated for 0.058 af (100% of inflow)
Center-of-Mass det. time= 25.7 min (818.7 - 793.0)

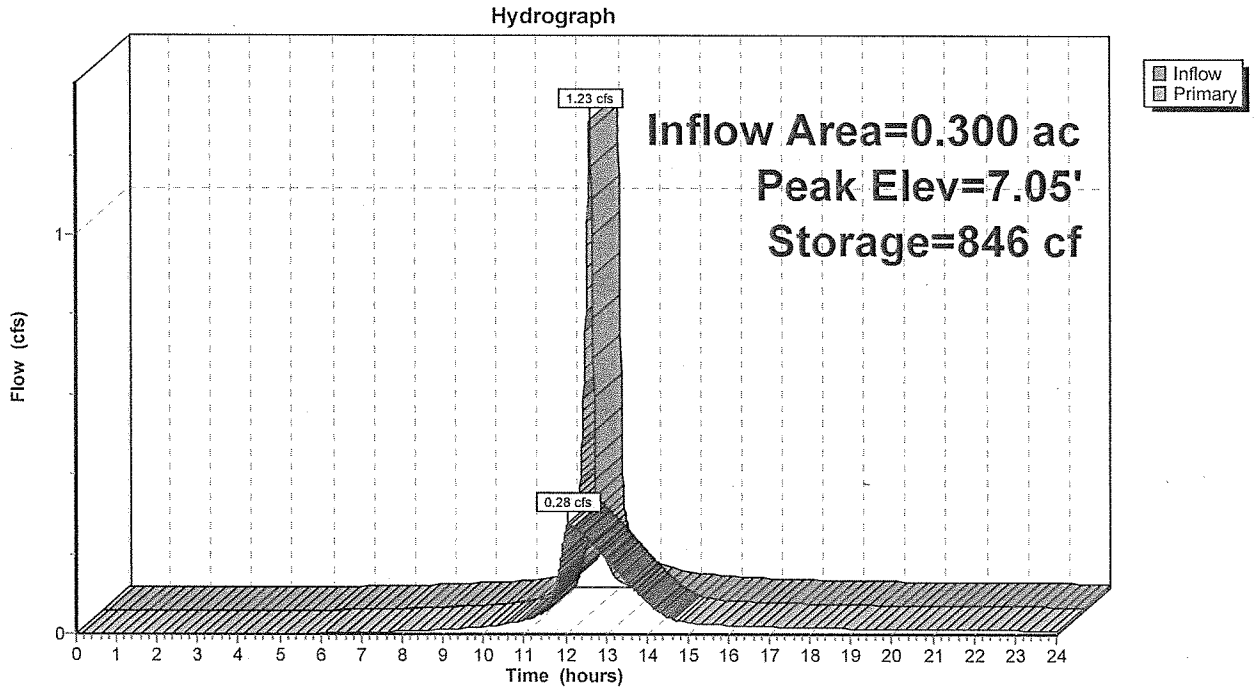
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	960 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

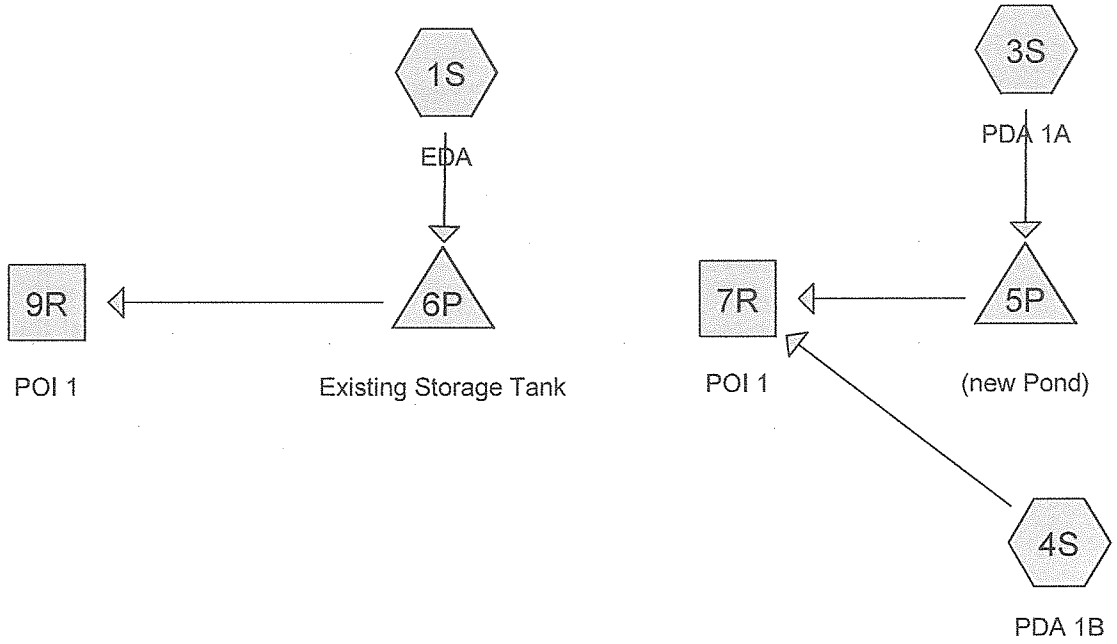
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.28 cfs @ 12.09 hrs HW=7.05' (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 0.28 cfs @ 12.71 fps)

Pond 6P: Existing Storage Tank





Subcat Reach Pond Link

Routing Diagram for Storm

Prepared by {enter your company name here}, Printed 7/22/2013

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.130	74	>75% Grass cover, Good, HSG C (1S, 4S)
0.230	98	Paved parking and Roof, HSG C (1S)
0.060	98	Paved parking, HSG C (4S)
0.190	98	Unconnected roofs, HSG C (3S)

Summary for Subcatchment 1S: EDA

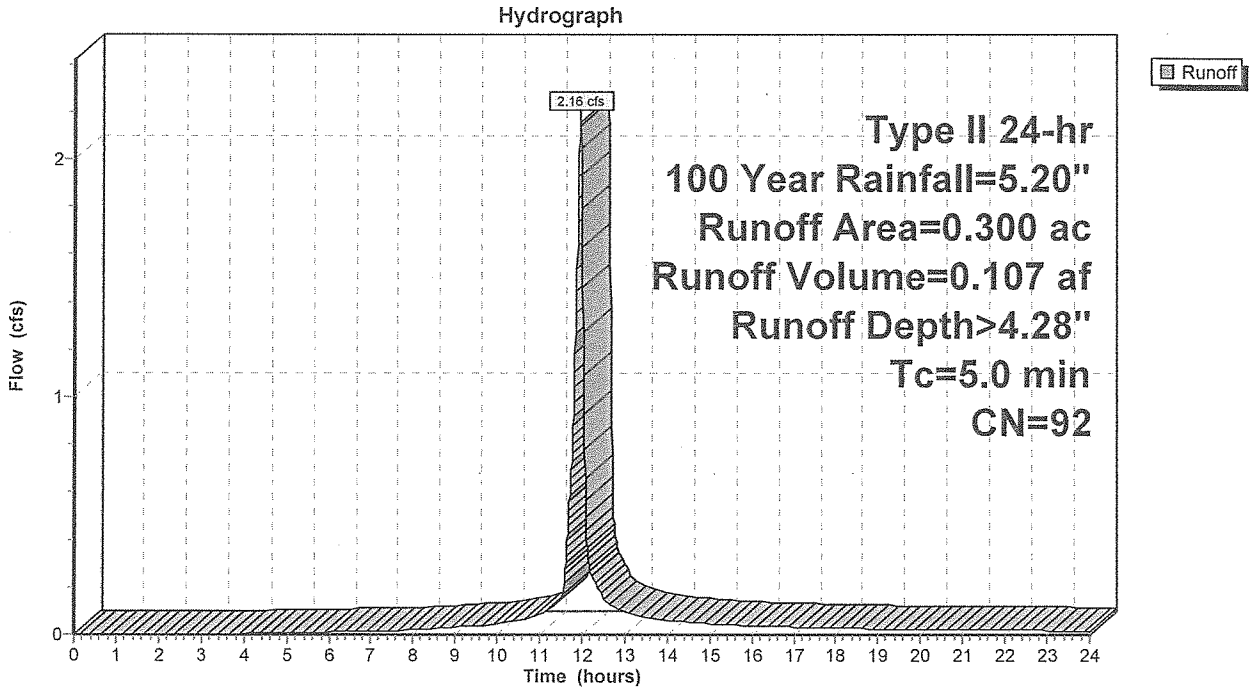
Runoff = 2.16 cfs @ 11.96 hrs, Volume= 0.107 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.20"

	Area (ac)	CN	Description
	0.070	74	>75% Grass cover, Good, HSG C
*	0.230	98	Paved parking and Roof, HSG C
	0.300	92	Weighted Average
	0.070		23.33% Pervious Area
	0.230		76.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: EDA



Summary for Subcatchment 3S: PDA 1A

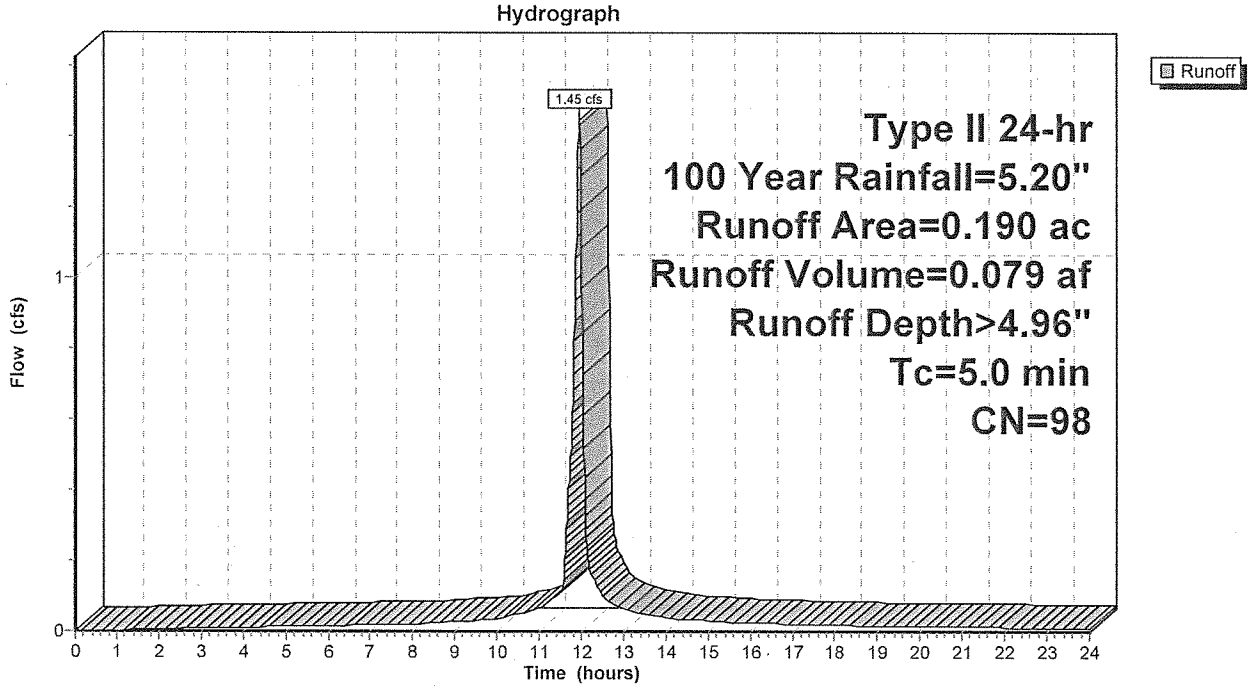
Runoff = 1.45 cfs @ 11.96 hrs, Volume= 0.079 af, Depth> 4.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.20"

Area (ac)	CN	Description
0.190	98	Unconnected roofs, HSG C
0.190		100.00% Impervious Area
0.190		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: PDA 1A



Summary for Subcatchment 4S: PDA 1B

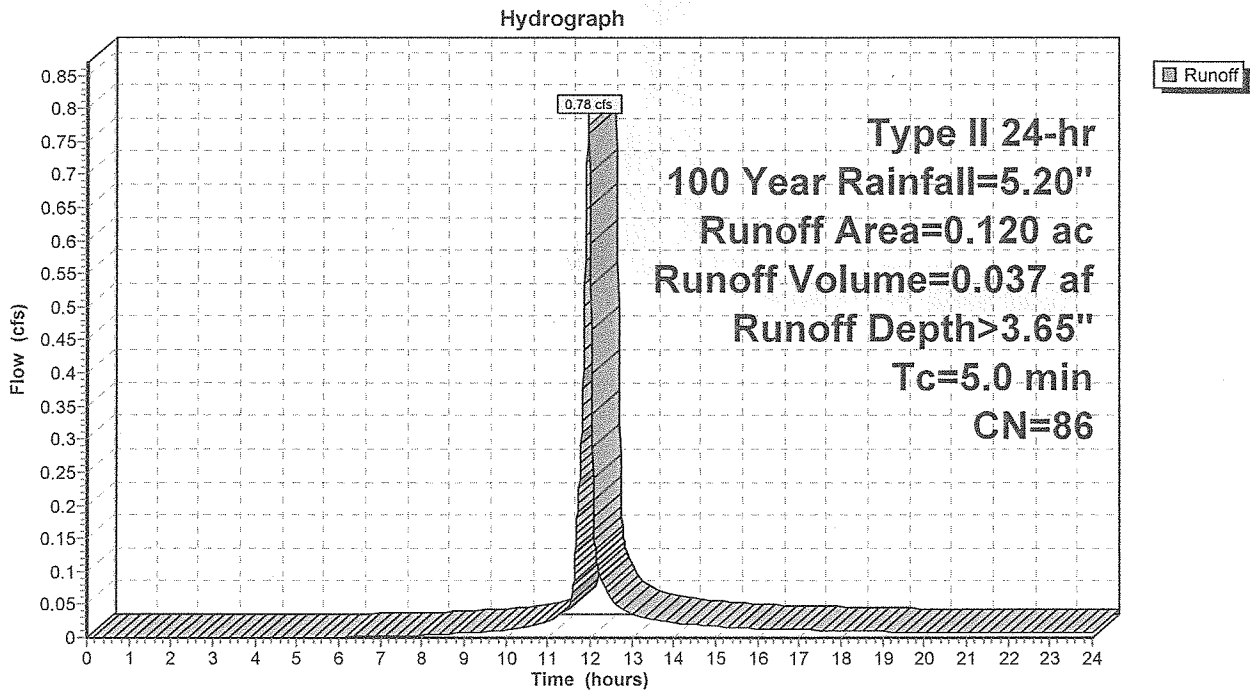
Runoff = 0.78 cfs @ 11.96 hrs, Volume= 0.037 af, Depth> 3.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 Year Rainfall=5.20"

Area (ac)	CN	Description
0.060	74	>75% Grass cover, Good, HSG C
0.060	98	Paved parking, HSG C
0.120	86	Weighted Average
0.060		50.00% Pervious Area
0.060		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 4S: PDA 1B

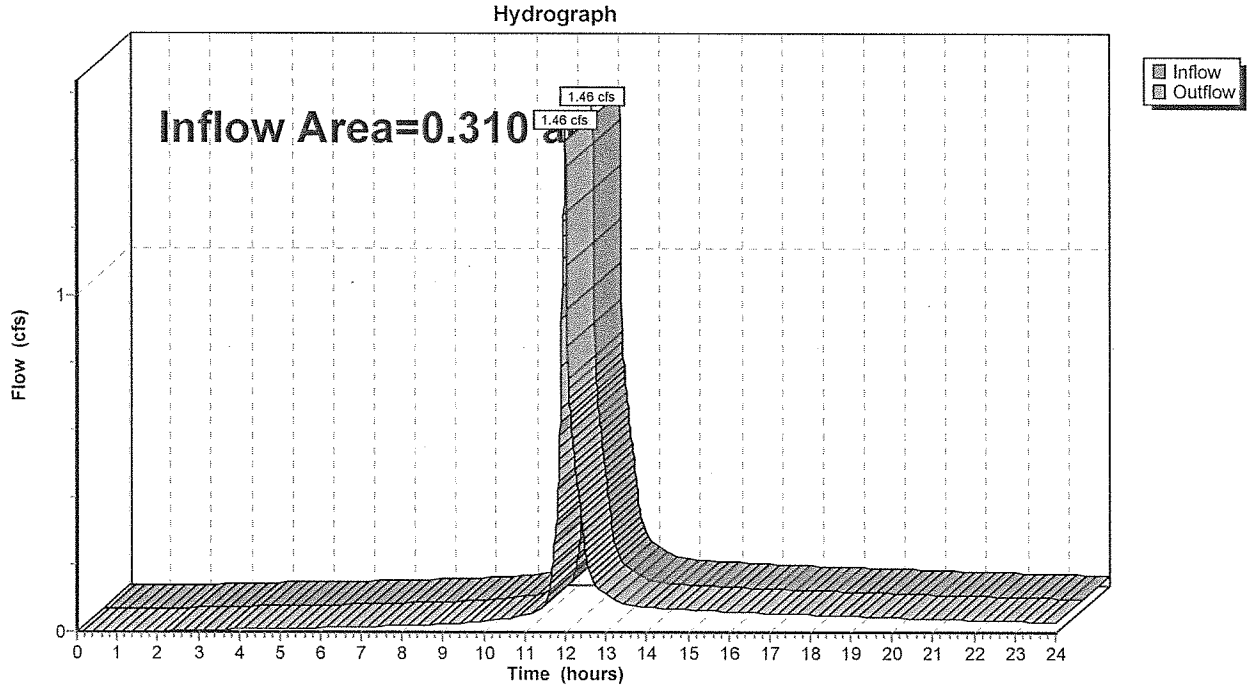


Summary for Reach 7R: POI 1

Inflow Area = 0.310 ac, 80.65% Impervious, Inflow Depth > 4.27" for 100 Year event
Inflow = 1.46 cfs @ 12.02 hrs, Volume= 0.110 af
Outflow = 1.46 cfs @ 12.02 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 7R: POI 1

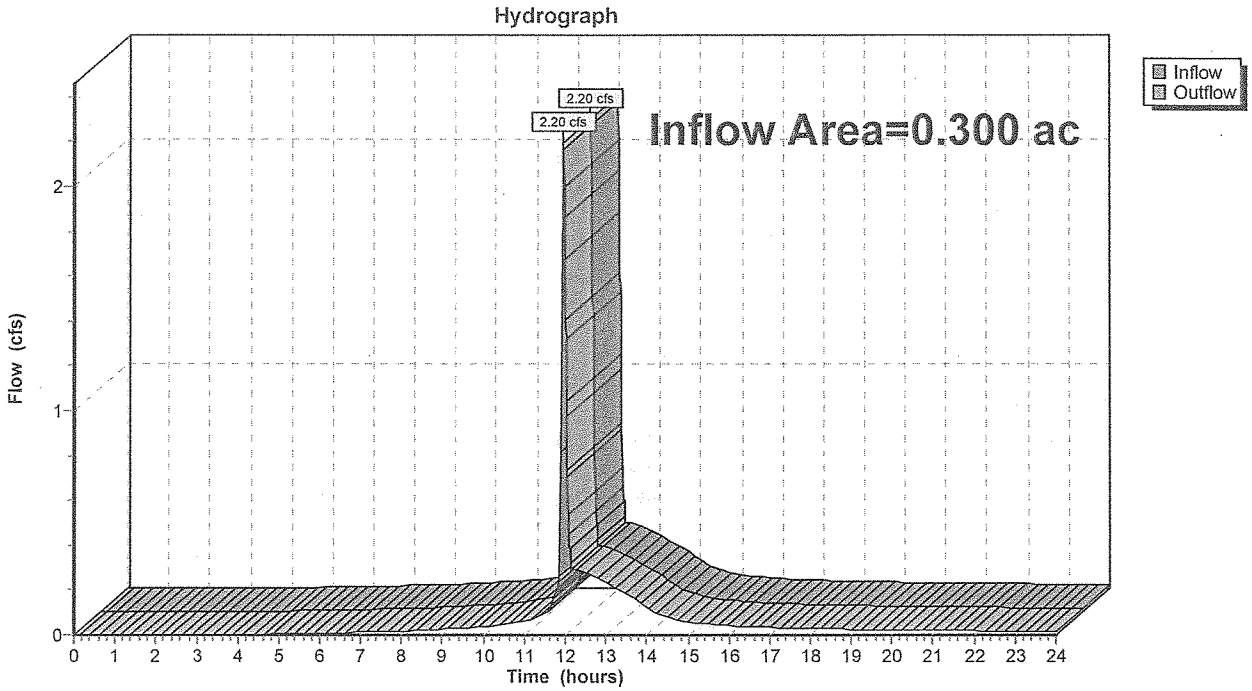


Summary for Reach 9R: POI 1

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 4.25" for 100 Year event
Inflow = 2.20 cfs @ 11.95 hrs, Volume= 0.106 af
Outflow = 2.20 cfs @ 11.95 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Reach 9R: POI 1



Summary for Pond 5P: (new Pond)

Inflow Area = 0.190 ac,100.00% Impervious, Inflow Depth > 4.96" for 100 Year event
Inflow = 1.45 cfs @ 11.96 hrs, Volume= 0.079 af
Outflow = 0.94 cfs @ 12.02 hrs, Volume= 0.074 af, Atten= 35%, Lag= 4.1 min
Primary = 0.94 cfs @ 12.02 hrs, Volume= 0.074 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Starting Elev= 1.00' Surf.Area= 240 sf Storage= 240 cf
Peak Elev= 6.61' @ 12.02 hrs Surf.Area= 240 sf Storage= 1,585 cf (1,345 cf above start)

Plug-Flow detention time= 223.7 min calculated for 0.068 af (87% of inflow)
Center-of-Mass det. time= 120.4 min (862.2 - 741.8)

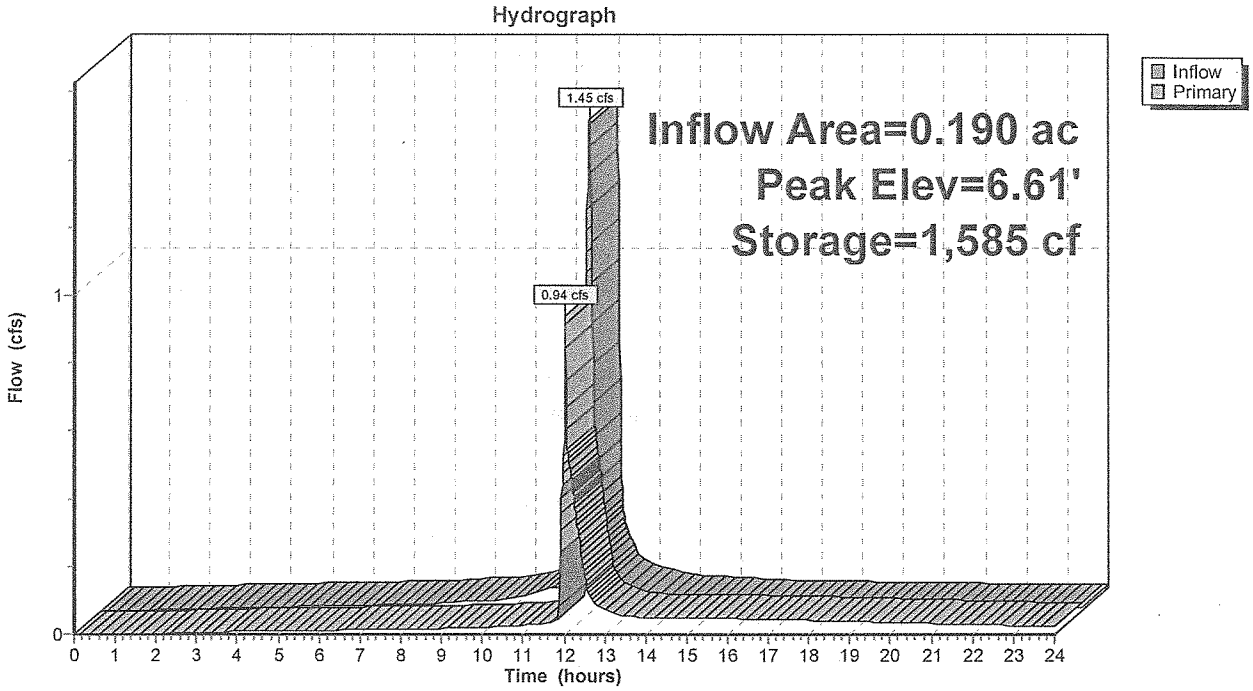
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,920 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 2

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

Device	Routing	Invert	Outlet Devices
#1	Primary	1.00'	**1.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	5.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Primary	6.50'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.02 hrs HW=6.60' (Free Discharge)
- **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 11.35 fps)
- **2=Orifice/Grate** (Orifice Controls 0.50 cfs @ 5.77 fps)
- **3=Orifice/Grate** (Weir Controls 0.34 cfs @ 1.05 fps)

Pond 5P: (new Pond)



Summary for Pond 6P: Existing Storage Tank

Inflow Area = 0.300 ac, 76.67% Impervious, Inflow Depth > 4.28" for 100 Year event
Inflow = 2.16 cfs @ 11.96 hrs, Volume= 0.107 af
Outflow = 2.20 cfs @ 11.95 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.0 min
Primary = 2.20 cfs @ 11.95 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 438.04' @ 11.95 hrs Surf.Area= 120 sf Storage= 960 cf

Plug-Flow detention time= 31.5 min calculated for 0.106 af (99% of inflow)
Center-of-Mass det. time= 26.9 min (803.5 - 776.6)

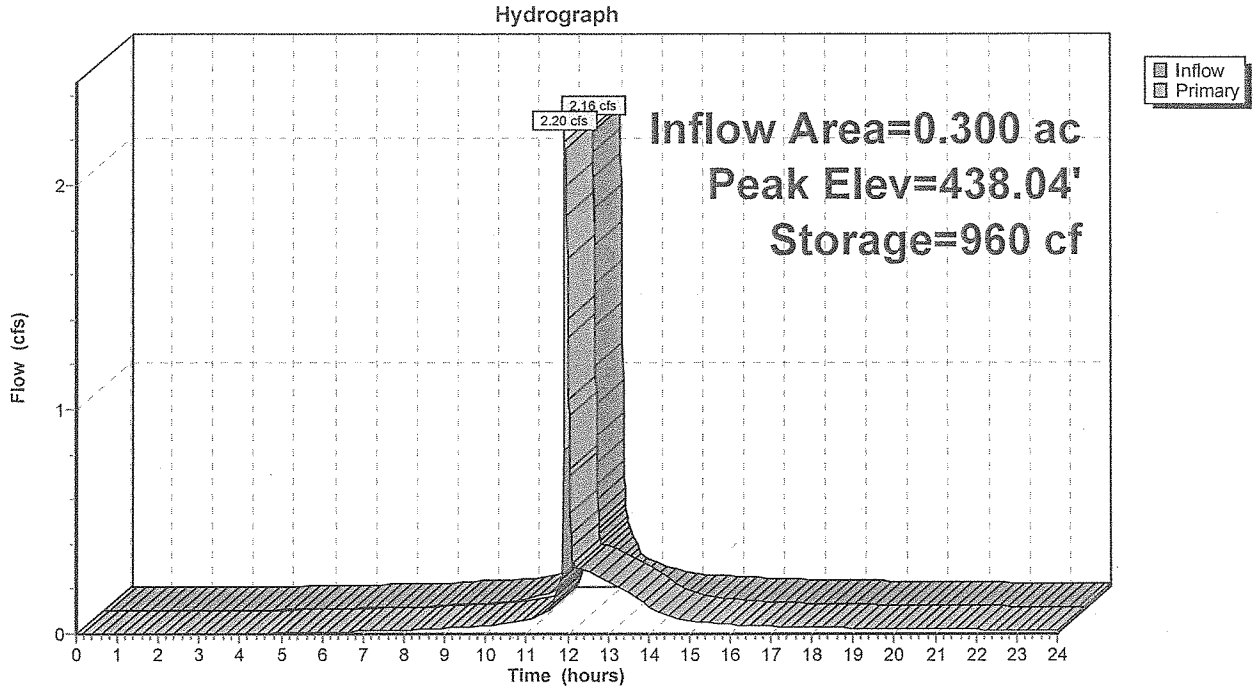
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	960 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

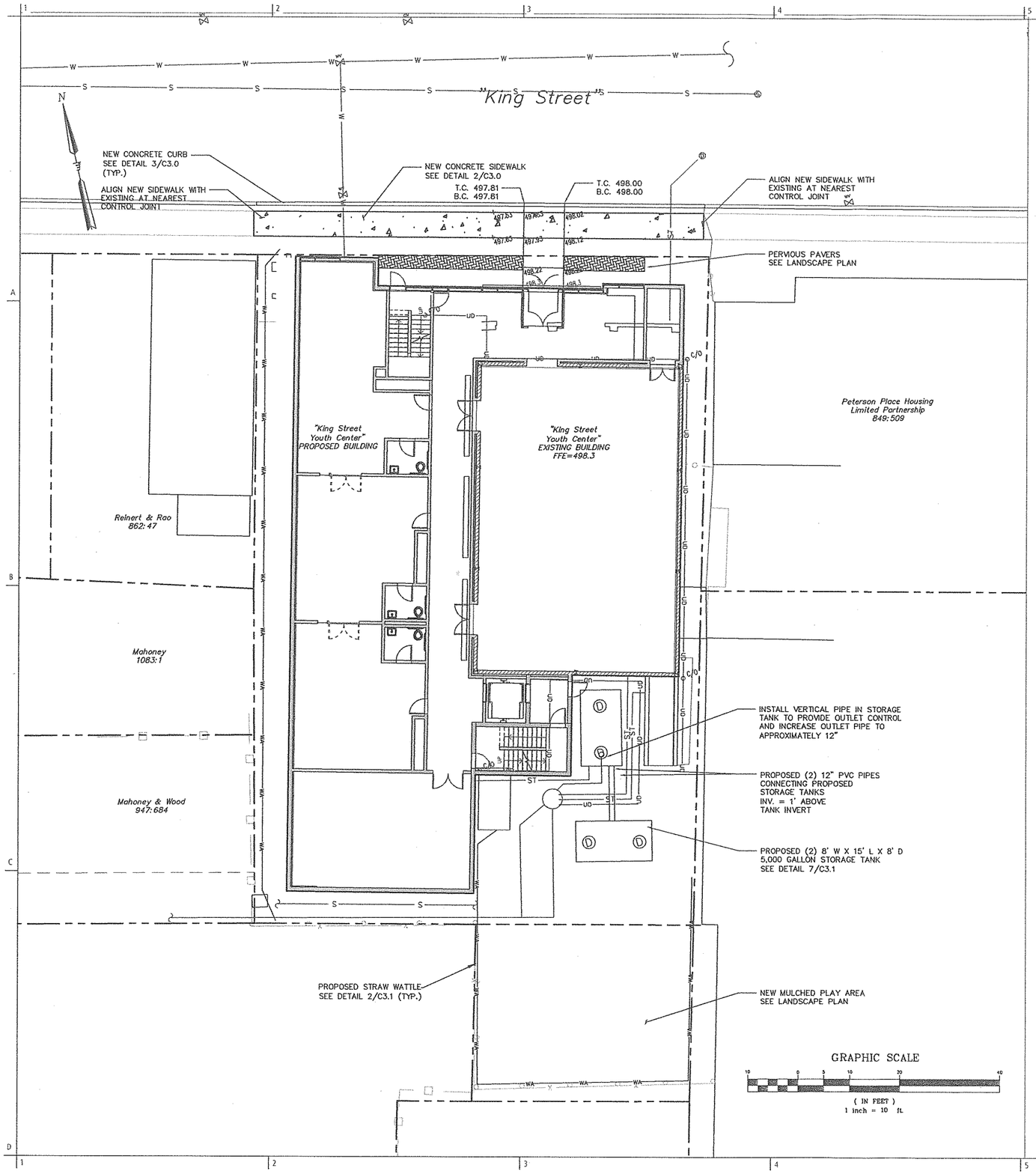
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	120	0	0
8.00	120	960	960

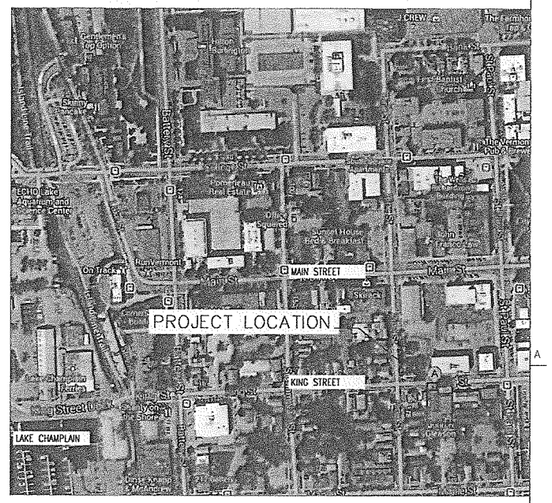
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**2.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=2.19 cfs @ 11.95 hrs HW=433.26' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 2.19 cfs @ 100.21 fps)

Pond 6P: Existing Storage Tank







SITE LOCATION

0 250' 500' 1000'

SCALE: 1" = 250'

N

LEGEND

EXISTING FEATURES		PROPOSED FEATURES
c/o	CLEAN OUT	c/o
	MANHOLE	
	CATCH BASIN	
	STORM MANHOLE	
	TAPPING SLEEVE AND VALVE	
	CULVERT	
	GATE VALVE	
	HYDRANT	
	WATER SHUT OFF	
	LIGHT POLE	
	UTILITY POWER POLE	
SB 1	SOIL BORING	SB 1
	SIGN	
+ 100.00	SPOT ELEVATION	+ 100.5
X	FENCE	X
100	CONTOUR	100
	SWALE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
S	SANITARY SEWER LINE	S
ST	STORM LINE	ST
W	WATER LINE	W
UE	UNDERGROUND ELECTRIC	UE
OH	OVERHEAD ELECTRIC	OH
UT	UNDERGROUND TELEPHONE	
G	GAS LINE	G
UD	UNDER DRAIN	UD
	RIGHT-OF-WAY LINE	
WA	STRAW WATTLE	WA
	CONCRETE SIDEWALK	

truexcullins
EDUCATION
209 BATTERY STREET BURLINGTON, VERMONT 05401 USA
Phone 802.658.2775 800.227.1076
ARCHITECTURE | INTERIOR DESIGN — TRUEXCULLINS.COM

OWNER
King Street Center
87 King Street
Burlington, VT 05401
802.862.6736

CONSTRUCTION MANAGER
Engelberth Construction, Inc.
463 Mountain View Drive, Suite 200, 2nd Floor
Colchester, VT 05446
802.655.0100

STRUCTURAL ENGINEER
Richard M. Doherty, P.E.
595 Dorset Street Suite #6
South Burlington, VT 05403
802.660.9212

CIVIL ENGINEER
Engineering Ventures
208 Flynn Avenue, Suite 2A
Burlington, VT 05401
802.863.6225

CODE CONSULTING
Philip R. Sherman, P.E.
444 Wilmot Center Road
Elkins, NH 03233-0216
603.526.6190

LANDSCAPE ARCHITECT
Wagner Hodgson Landscape Architecture
7 Marble Avenue
Burlington, VT 05401
802.864.0010

No.	Description	Date

King Street Center

King Street Center
Renovations & Additions

SITE PLAN

Project number :	A2011056.00
Date :	15 July 2013
Drawn by :	DZ
Checked by :	PB
Project Phase :	Permit Application

C2.0

Scale : As Noted

Burlington Department of Public Works
Stormwater Program
645 Pine Street
Burlington, VT 05401
PH: 802-540-1748 Email: mmoir@ci.burlington.vt.us

Small Project Erosion Prevention & Sediment Control Plan

This questionnaire, at a minimum, is required to accompany all zoning or building permit applications **which involve 400 sq. ft. or more of land disturbance.** Please also provide a site plan indicating the locations of all erosion prevention and sediment control measures (silt fence, hay bales etc).
Properties with greater than 2500 sq. ft. of total impervious surfaces, that are adding more impervious, will also be required to comply with additional long term stormwater management requirements.

1. Project Location 87 King Street, Burlington, VT 05401
2. Brief Project Description (i.e. house foundation, swimming pool)
   Rebuilding and renovation of the King Street Center on the existing foot print
3. Owner Name: King Street Center, Inc.
4. Owner Mailing Address: PO Box 1615, Burlington, VT 05402
5. Owner Phone: 802-862-6736 6. Owner email: vicky@kingstreetcenter.org
7. Contractor Name: T.B.D
8. Contractor Phone: T.B.D 9. Contractor Email: T.B.D
10. Estimated Project Start Date T.B.D Estimated End Date T.B.D
11. Area of Land Disturbance 13,144 sq. ft.
12. Total proposed (existing + new) amount of impervious: 10,271 sq. ft.
13. Estimated distance in feet from disturbance to nearest:
    a. City Sidewalk or Street 0 ft b. Drainage Ditch N.A. ft
    c. Catch Basin (storm drain) 50 ft d. Lake/River/Stream N.A. ft
14. Site plan/sketch MUST BE ATTACHED showing the following:
    ☐ Limits of disturbance P.L. ☐ Direction of stormwater flow on site
    ☐ Location of stockpiles (if any) N.A. ☐ Location of sediment control BMP's (silt fence etc.)

EPSC QUESTIONNAIRE ***(See last page for typical solutions to these questions)***

A) Nature of all site disturbances (check all that apply):

☐ Underground utility trench(es) ☐ curb cut/driveway ☒ foundation ☐ cut/fill/regrading ☒ landscaping
☒ other Stormwater tank installation with piping

B) Do you anticipate the need for any dewatering of excavations during the construction? ☐ Yes ☒ No
- If yes, how will the pumped water be managed or filtered to prevent the discharge of dirty water?

*impervious = any surface off of which water runs off rather than infiltrates, including, but not limited to rooftops and paved/unpaved (gravel/packed dirt) driveways, walkways and patios

☒Y ☐N During the winter construction period from November 1 to April 15, any **new disturbance** must be temporarily or permanently stabilized (mulching, erosion control matting or tarps for stockpiles, or other approved method) will occur at the end of each work day unless:

- o Earthwork is to continue in the area within the next 24 hours and there is NO liquid precipitation forecast for the next 24 hours; or
- o If work is occurring in a self-contained excavation (no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation or utility trenches)

☒Y ☐N The perimeter of the site and all BMPs will be inspected at the **end of each workday** to ensure that sediment will not leave the site. If sediment has travelled beyond the site boundary, it shall be swept up or otherwise removed and deposited on-site in an upgradient area at the **end of each work day.**

☒Y ☐N The owner and his/her representatives shall abide by the best management practices (BMPs) indicated in this plan and conditions and in the Vermont DEC Low Risk Site Handbook for Erosion Prevention and Sediment Control (2006). Contact 802-540-1748 for a hard copy or go to the web: http://vtwaterquality.org/stormwater/docs/construction/sw_low_risk_site_handbook.pdf

☒Y ☐N **If soils will be exposed after November 1st and winter construction has not been permitted the project will notify DPW prior to October 15th.** If the project is completed during the winter months, an additional inspection will be required to ensure that the site is buttoned up for the winter.

☒Y ☐N Within 48 hours of reaching final grading, the exposed soil will be seeded and mulched or covered with erosion control matting (for slopes steeper than 3:1 or high wind prone areas). Erosion control matting is preferred.

☒Y ☐N The owner will contact DPW to schedule a stabilization inspection when site work is finished and stabilization measures (seeding and mulching or matting) have been installed.

AGREEMENT

By filling out and signing this plan, I agree to abide by the terms and conditions outlined above. Failure to follow this plan can result in a stop work order by the City of Burlington, fines, or both.

By: ☑ Owner ☐ Contractor ☐ Architect/Engineer

Vicky Smith _______________ 7·15·13

Name Signature Date

Additional Conditions of Approval:

____

____

____

Plan Approved by: ______________________ Date:__________

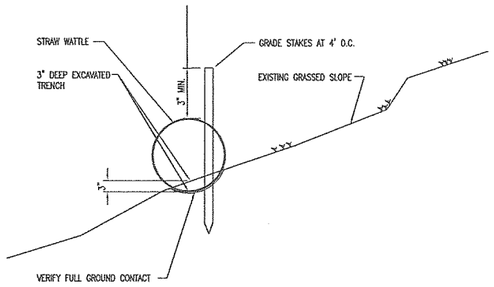
Megan J. Moir, CPESC, CPSWQ

Table of required DPW compliance verifications

Compliance Sign- off needed	Verified by	Date
Notification of start/ identification of EPSC coordinator		
Winter Stabilization Inspection (if applicable)		
Final Stabilization installed		

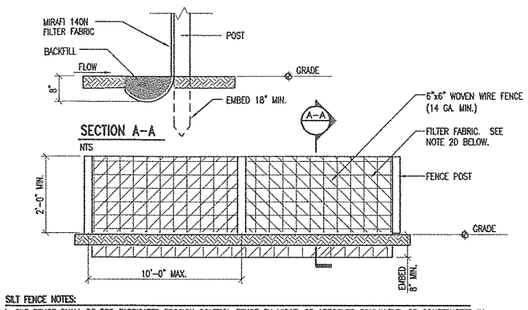
NOT USED

SCALE: NONE (1)



STRAW WATTLE DETAIL

SCALE: NONE (2)

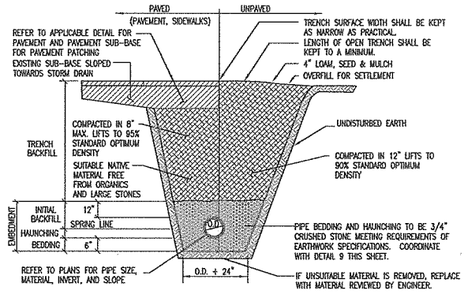


SILT FENCE NOTES:

1. SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR APPROVED EQUIVALENT, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2. CONSTRUCTED IN PLACE SILT FENCE:
   A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
   B. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP AND MID SECTION.
   C. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
   D. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUIVALENT.
4. PREFABRICATED UNIS SHALL BE GEOFAB, ENVIROFENCE OR APPROVED EQUIVALENT.
3. INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED WEEKLY (EVERY 7 DAYS) AND WITHIN 24 HOURS AFTER EACH RAIN.
4. REMOVE SEDIMENT WHEN A DEPTH OF SIX INCHES IS REACHED.

SILT FENCE DETAIL

SCALE: NONE (3)

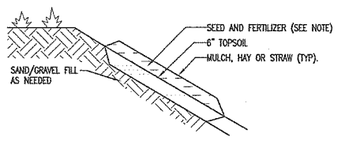


STORM TRENCH NOTES

1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM , STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
4. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED. INSULATION DETAIL FOR AREAS WHERE PROPER COVER CANNOT BE ACHIEVED.

TYPICAL STORM DRAIN TRENCH DETAIL

SCALE: NONE (4)



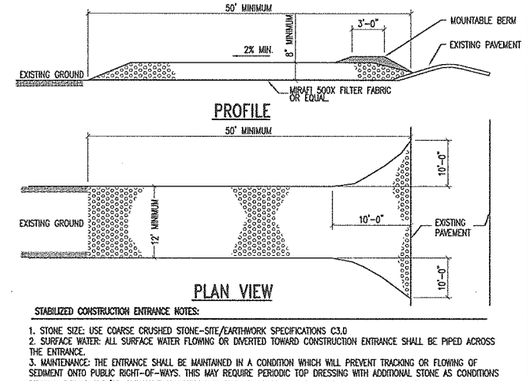
SITE CONDITIONS	INTENDED USE	MIN. TOPSOIL DEPTH
DEEP SAND OR LOAMY SAND	MOWED LAWN	6 IN
	TALL LEGUMES, UNMOWED	2 IN
	TALL GRASS, UNMOWED	1 IN
DEEP SANDY LOAM	MOWED LAWN	5 IN
	TALL LEGUMES, UNMOWED	2 IN
	TALL GRASS, UNMOWED	NONE
6" OR MORE OF SILT LOAM, LOAM OR SILT	MOWED LAWN	4 IN
	TALL LEGUMES, UNMOWED	1 IN
	MOWED LAWN	1 IN

NOTES FOR SEEDED AND MULCHED AREAS

1. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.
2. MULCH: TYPICALLY HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 90–1,000 LBS/1,000 SF. MULCH SHALL NOT BE PLACED ON SLOPES OF GREATER THAN 3:1. SEED IMPREGNATED EROSION CONTROL NETTING SHALL BE USED IN ITS PLACE.
3. SEED: SEEDING SHALL OCCUR AFTER APRIL 15 AND PRIOR TO SEPTEMBER 15TH IN ORDER TO ESTABLISH A STAND OF GRASS PRIOR TO GROUND FREEZING. SEED SHALL BE IN ACCORDANCE WITH SEED SPECIFICATION ON THIS SHEET.
4. COVER SEED WITH ¼ INCH SOIL UNLESS A HYDROSEEDER IS USED.
5. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
6. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.

SEEDED AND MULCHED AREAS DETAIL

SCALE: NONE (5)

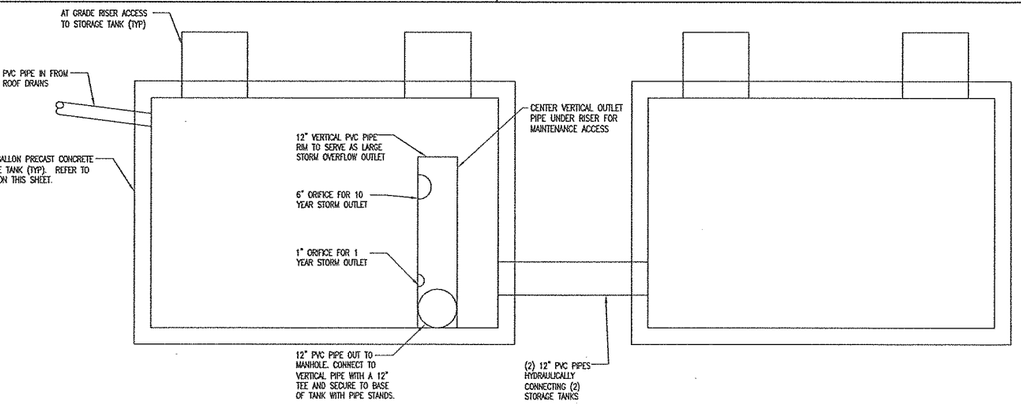


STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE COARSE CRUSHED STONE–SITE/EARTHWORK SPECIFICATIONS C3.0
2. SURFACE WATER: ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT–OF–WAYS MUST BE REMOVED IMMEDIATELY.
4. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

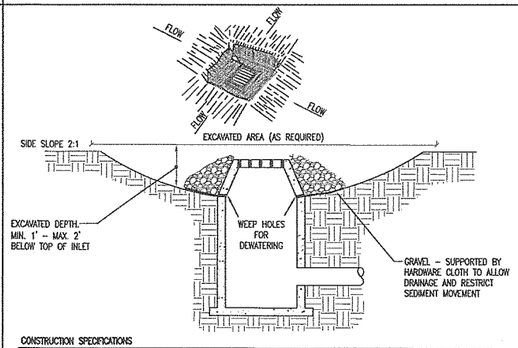
CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE (6)



STORMWATER STORAGE TANK PROFILE

SCALE: NONE (7)



CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN AND PROTECT WEEP HOLES WITH GRAVEL.

2. INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED WEEKLY (EVERY 7 DAYS) AND WITHIN 24 HOURS AFTER EACH RAIN.

3. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL AROUND INLET WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.

TEMPORARY INLET PROTECTION

SCALE: NONE (8)

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No.	Description	Date

RECEIVED
JUL 25 2013
DEPARTMENT OF PLANNING & ZONING

King Street Center

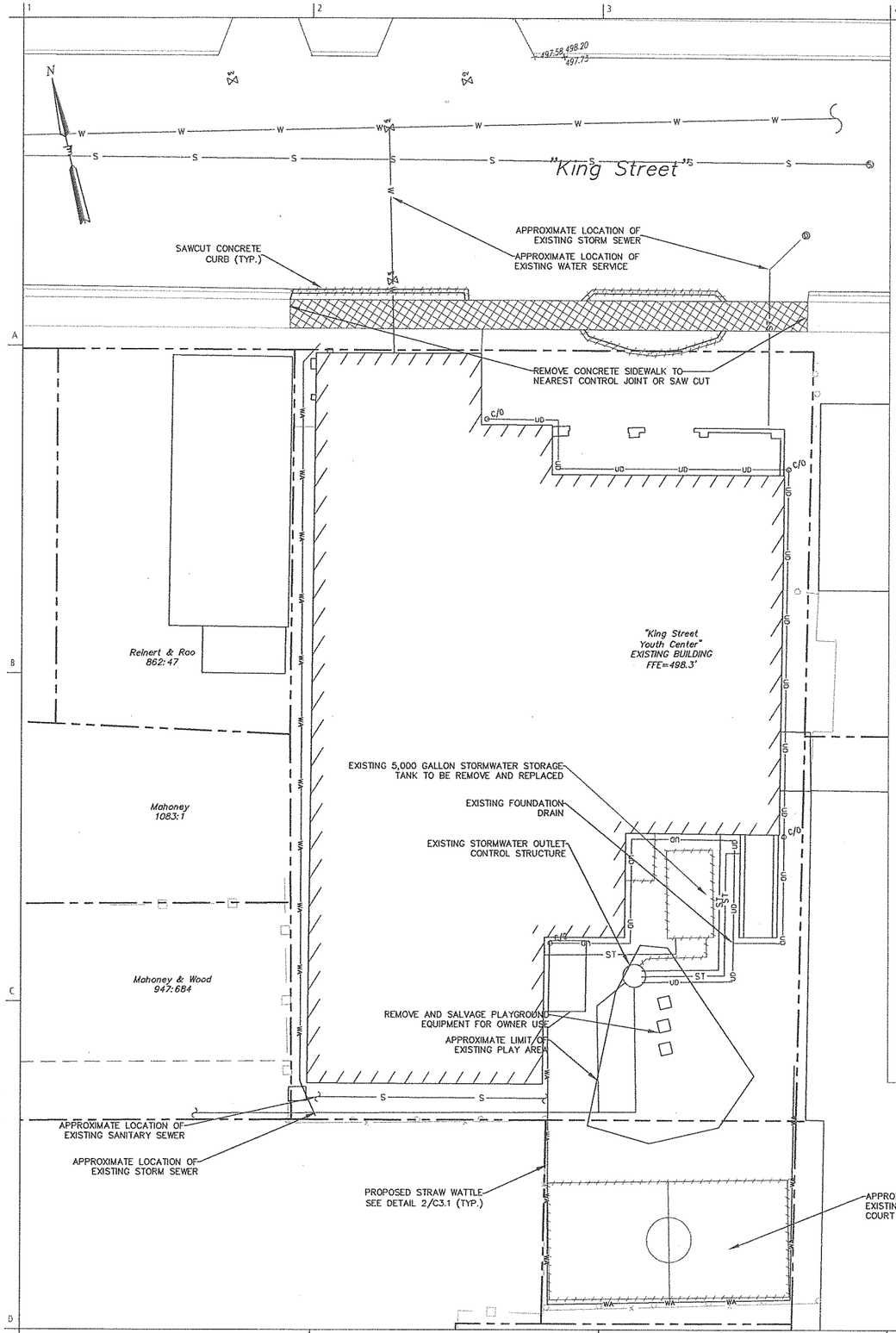
King Street Center
Renovations & Additions

STORM AND EPSC DETAILS

Project number :	A2011056.00
Date :	15 July 2013
Drawn by :	DZ
Checked by :	PB
Project Phase :	Permit Application

C3.1

Scale : As Noted

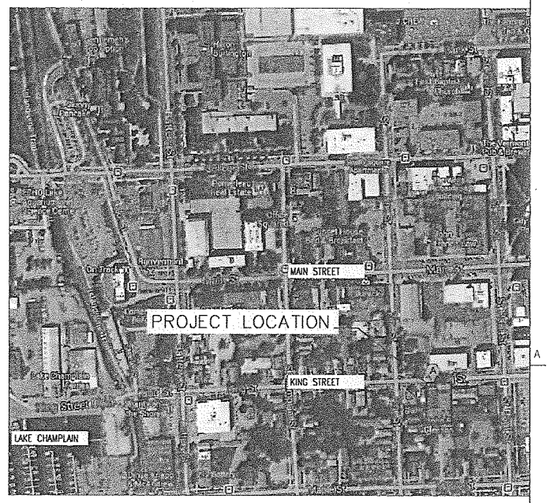


GENERAL NOTES

1. EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION RECEIVED FROM LITTLE RIVER SURVEY AND THE TOWN OF STOWE. ENGINEERING VENTURES HAS NOT VERIFIED THIS INFORMATION FOR ACCURACY.
2. EXACT OBJECT LOCATIONS MAY DIFFER FROM THOSE SHOWN, AND ADDITIONAL SUB-SURFACE UTILITIES AND STRUCTURES MAY EXIST THAT ARE NOT DEPICTED. THE CONTRACTOR IS TO PROCEED WITH CARE IN EXECUTING ANY WORK AND TO CALL DIG SAFE 48 HOURS PRIOR TO DIGGING, DRILLING OR BLASTING.
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
4. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
6. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES.
7. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A VERMONT STATE LICENSED LAND SURVEYOR.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
10. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA AND VOSHA REGULATIONS FOR CONSTRUCTION.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
12. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
13. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
14. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES. TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.

DEMOLITION NOTES

1. NO DEMOLITION SHALL COMMENCE UNTIL APPROPRIATE EROSION PREVENTION AND SEDIMENT CONTROL ARE INSTALLED
2. ALL DEMOLITION ITEMS FROM THE DEMOLITION, UNLESS NOTED BY THE OWNER TO BE STORED OR REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE. EXCESS OR UNSUITABLE SOIL SHALL BE REMOVED FROM THE SITE. CONSTRUCTION MANAGER TO PROVIDE LIST FOR OWNER'S REVIEW FOR SALVAGED EQUIPMENT ETC. FOR OWNER TO RECLAIM.
3. ALL ADJACENT FACILITIES AND STRUCTURES NOT INDICATED AS INCLUDED IN THE SCOPE OF WORK SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ALL ADJACENT FACILITIES OR STRUCTURES DAMAGED DURING CONSTRUCTION TO PRE-CONSTRUCTION CONDITION OR BETTER.
4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK AREA NOT ONLY DURING DEMOLITION PROCEDURES, BUT FOR THE DURATION OF CONSTRUCTION.
5. PRIOR TO DEMOLITION, HAND EXCAVATE ANY UNDERGROUND UTILITIES. NOTIFY THE OWNER IF ANY OTHER UTILITIES NOT NOTED ON THE DRAWINGS ARE FOUND.
6. CARE SHALL BE TAKEN NOT TO DAMAGE OR DISTURB ANY TREES AND SITE LIGHTING NOT INDICATED FOR REMOVAL DURING CONSTRUCTION.
7. PROPOSED FEATURES ARE SHOWN ON THIS DRAWING FOR REFERENCE ONLY.
8. ALL EXISTING UTILITIES, FENCING AND SITE FEATURES SHOWN WITH CROSS HATCHING (/ / /) ARE TO BE REMOVED (PAVING, GRAVEL, WALLS, WALKS, MH, CB, PIPE, ETC).
9. SEED AND MULCH ALL RESULTING DISTURBED AREAS IN ACCORDANCE WITH THE EROSION PREVENTION AND SEDIMENT CONTROL PLAN WHERE NO WORK IS ANTICIPATED WITHIN 48 HOURS.
10. REFER TO DEMOLITION PLANS WITHIN ARCHITECTURAL, MEP AND STRUCTURAL DESIGN DRAWINGS FOR ADDITIONAL WORK ITEMS. CONTRACTOR SHALL COORDINATE PHASING AND DEMOLITION OF THOSE ITEMS WITH OTHER TRADES.
12. THE CONTRACTOR MAY NOT HAVE ACCESS TO PERFORM WORK ON THE ENTIRE SITE AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO BEGINNING WORK IN ANY AREA.
13. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND BARRIERS TO PREVENT ACCESS TO THE WORK AREA BY PERSONS ONSITE TO ACCESS THE FACILITIES OCCUPIED BY THE OWNER.
14. REMOVE ALL TEMPORARY AGGREGATE AT THE END OF CONSTRUCTION AND SEED AND MULCH.
15. ALL DEMOLISHED MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT PLAN.



SITE LOCATION

0 250' 500' 1000'

SCALE: 1" = 250'

N

LEGEND

EXISTING FEATURES		PROPOSED FEATURES
c/o	CLEAN OUT	c/o
S	MANHOLE	S
CB	CATCH BASIN	CB
D	STORM MANHOLE	D
TV	TAPPING SLEEVE AND VALVE	TV
	CULVERT	
GV	GATE VALVE	GV
	HYDRANT	
	WATER SHUT OFF	
	LIGHT POLE	
	UTILITY POWER POLE	
SB 1	SOIL BORING	SB 1
	SIGN	
+ 100.00	SPOT ELEVATION	+ 100.5
X	FENCE	X
	CONTOUR	100
	SWALE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
S	SANITARY SEWER LINE	S
ST	STORM LINE	ST
W	WATER LINE	W
UE	UNDERGROUND ELECTRIC	UE
OH	OVERHEAD ELECTRIC	OH
UT	UNDERGROUND TELEPHONE	
G	GAS LINE	G
UD	UNDER DRAIN	UD
	RIGHT-OF-WAY LINE	
WA	STRAW WATTLE	WA

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EXISTING AND DEMO PLAN

Project number :	A2011056.00
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Drawn by :	DZ
Checked by :	PB
Project Phase :	Permit Application

C1.0

Scale : As Noted

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